## COAL MINE COMPENSATION RATING BUREAU OF PENNSYLVANIA

COMMERCE BUILDING – SUITE 403 300 NORTH SECOND STREET HARRISBURG, PENNSYLVANIA 17101

CHARLES A. ROMBERGER EXECUTIVE DIRECTOR **TELEPHONE/FAX** 717-238-5020

November 25, 2019

The Honorable Jessica K. Altman Insurance Commissioner Pennsylvania Insurance Department 1311 Strawberry Square Harrisburg, PA 17120

Attention: Michael McKenney, Actuarial Supervisor, Property & Casualty Bureau

RE: Proposal CM-3-2019

Revised Loss Costs for Traumatic, State Occupational Disease And Federal Occupational Disease To Be Effective: April 1, 2020

Dear Commissioner Altman:

Enclosed for your review and approval is the annual filing of Loss Costs by the Coal Mine Compensation Rating Bureau of Pennsylvania ("Bureau"). This filing is made in accordance with Article VII of the Pennsylvania Workers' Compensation Act.

Exhibit I-A-M displays the proposed changes by classification and by coverage. Overall, the proposed change in Manual Loss Costs is -1.3%. By coverage, the proposal requests a change of -1.6% for Traumatic, a change of 7.7% for State Occupational Disease ("SOD") and a change of -5.9% for Federal Occupational Disease ("FOD").

The Proposed Traumatic Loss Costs are decreasing overall by \$0.09 from \$5.71 to \$5.62. The overall experience is being driven by the following considerations:

- Indemnity Loss Development Factors changed modestly
  - o The largest increase was 0.4% for Accident Year for 2014 and
  - o The largest decrease was 4.0% for Accident Year 2018.
- Indemnity Loss Trend Annual Factor decreased from 1.4% to 1.1%. Consequently, Indemnity Loss Trend Factors decreased by 0.8% to 2.0%.
- The uniform HB 1840 Adjustment Factor of 1.0159 was replaced by Adjustment Factors that vary by Accident Year. This adjustment is included with the Indemnity Loss Trend Factors. On a combined basis, the changes to the Indemnity Loss Trend Factors range from -1.5% to -2.1% from newer to older Accident Years.
- Medical Loss Development Factors decreased for all years ranging from -0.3% for Accident Year 2014 to -4.8% for Accident Year 2018.
- Medical Loss Trend Annual Factor increased from 1.0% to 2.1%. Consequently, Medical Loss Trend Factors increased by 3.0% to 7.6%.
- The replacement of Accident Year 2013 experience with Accident Year 2018 experience in the five (5) year Traumatic Loss Cost analysis.

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- o For the April 1, 2019 filing, the Accident Year 2013 Loss Cost was estimated to be \$4.51
- o For the April 1, 2020 filing, the Accident Year 2018 Loss Cost is estimated to be \$5.54 with both Indemnity and Medical components increasing significantly.

The Proposed SOD Loss Costs are increasing overall by \$0.04 from \$0.52 to \$0.56. The overall experience is being driven by the following considerations.

- For all classes combined, claim frequency changed by 14.6%.
- For all classes combined, claim severity changed by -0.3%.
- Note that the overall change is less than the combined frequency-severity change due to individual class capping at +/-25%.

The Proposed FOD Loss Costs are decreasing overall by \$0.04 from \$0.68 to \$0.64. The overall experience is being driven by the following considerations.

- For all classes combined, Basic claim frequency changed by -10.8%.
- For all classes combined, Excess claim frequency changed by 11.2%.
- For all classes combined, Basic claim severity changed by 0.3%.
- For all classes combined, Excess claim severity changed by 1.1%.

This Proposal consists of this cover letter, the enclosed Actuarial Report with Appendices A and B and Filing Exhibits. The Filing Exhibits were prepared for the Bureau by Mr. Peter A. Bennett who has extensive experience in this regard. This cover letter and Actuarial Report follow the organization that was used in last year's filing. The Filing Exhibits are unchanged from last year's filing, except where noted in the Summary of Significant Changes section of the Actuarial Report.

We ask for your approval of this filing on or before February 1, 2020. An approval in this timeframe facilitates the required notices and advanced issuance of revised employer rate cards, noting the applicable loss costs and rating plan values.

The Bureau and its consultant will be pleased to discuss any issues raised by the Department. Please feel free to contact me if additional information or discussion is necessary.

Sincerely,

Charles A. Romberger Executive Director

Challe A Rockey

#### Enclosures:

- 1) Three (3) printed copies of the filing (Cover letter, Actuarial Report and Filing Exhibits)
- 2) One (1) electronic copy of the filing on CD in PDF file format
- 3) One (1) electronic copy of the filing Exhibits on CD in Excel file format

# Actuarial Report Regarding the CMCRB's April 1, 2020 Loss Cost Filing

## Introduction

I, Charles A. ("Chuck") Romberger, am the Executive Director of the Coal Mine Compensation Rating Bureau of Pennsylvania ("CMCRB"). I am a member of the American Academy of Actuaries and I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. I offer this report in support of the CMCRB's proposed April 1, 2020 Loss Cost Filing. In this filing, the CMCRB proposes revisions to Loss Costs for Traumatic, State Occupational Disease ("SOD") and Federal Occupational Disease ("FOD") classifications under the CMCRB's jurisdiction to be effective April 1, 2020.

This report and the associated filing exhibits present information that demonstrate the fairness and reasonability of the proposed loss costs and show the CMCRB's continued use of accepted actuarial procedures and application of sound actuarial judgment.

I note that Mr. Peter A. Bennett participated in the preparation of this report and the associated Filing Exhibits. Mr. Bennett has extensive experience in this regard.

The remainder of this report consists of the following sections:

- The Executive Summary provides a discussion about the overall changes in Loss Costs and the sources of those changes contained in this filing by coverage (i.e., Traumatic, SOD and FOD). It also identifies "Other Items" that are typically of interest (e.g., the Employer Assessment Factor).
- The Summary of Significant Changes identifies and briefly discusses the significant changes in methods and assumptions from the CMCRB's prior loss cost filing.
- The Discussion of Filing Exhibits addresses the content of all of the Filing Exhibits and is arranged in Filing Exhibit order.
- The Disclosures section identifies and briefly discusses topics that broadly apply to all
  areas of this report and that present considerations or limitations related to the use of
  these findings.
- Appendix A provides a discussion and exhibits in support of the CMCRB's adjustments for House Bill 1846 of 2014 (HB 1846).
- Appendix B provides a discussion and exhibits in support of the CMCRB's adjustments concerning House Bill 1840 (HB 1840 or Act 111 of 2018), the legislative response to the Pennsylvania Supreme Court's decision in Protz v. WCAB.

Sincerely,

Charles A. Romberger, ACAS, MAAA, CPCU, ARM

Executive Director, CMCRB

Challe A Rockey

## **Executive Summary**

This report and the associated filing exhibits provide the CMCRB's proposal for loss costs to be effective on April 1, 2020, which is twelve (12) months from the last approved loss costs. The proposed loss costs are based on the annual review of data by coverage (i.e., Traumatic, SOD, and FOD – Basic and Excess) and by classification for the ten (10) coal mine classifications under the CMCRB's jurisdiction.

For all classifications combined, this filing proposes the following changes in loss costs by coverage and in Total (i.e., all coverages combined). This information can also be found on Exhibit I-A-M, Page 2 (Grand Total section).

	Current	Proposed	Change in
	Loss Cost	Loss Cost	Loss Costs
Traumatic	\$ 5.71	\$ 5.62	-1.6%
SOD	0.52	0.56	7.7%
FOD (Basic & Excess)	0.68	<u>0.64</u>	<u>-5.9%</u>
Total	\$6.91	\$6.82	-1.3%

The remainder of this Executive Summary provides a discussion section for each type of coverage and a discussion section for "Other Items".

## Traumatic Loss Costs

The Current Traumatic Loss Cost for all classes combined is \$5.71 based on 2018 payroll distribution. The Proposed level is \$5.62 or a change of -1.6%.

The key drivers of the change to Traumatic Loss Costs can be identified by comparing Exhibit V-B Page 1 for the April 1, 2020 filing to the April 1, 2019 filing. These drivers include:

- Indemnity Loss Development Factors changed modestly
  - o The largest increase was 0.4% for Accident Year for 2014 and
  - o The largest decrease was 4.0% for Accident Year 2018.
- Indemnity Loss Trend Annual Factor decreased from 1.4% to 1.1%. Consequently, Indemnity Loss Trend Factors decreased by 0.8% to 2.0%.
- The uniform HB 1840 Adjustment Factor of 1.0159 was replaced by Adjustment Factors that vary by Accident Year. This adjustment is included with the Indemnity Loss Trend Factors. On a combined basis, the changes to the Indemnity Loss Trend Factors range from -1.5% to -2.1% from newer to older Accident Years.
- Medical Loss Development Factors decreased for all years ranging from -0.3% for Accident Year 2014 to -4.8% for Accident Year 2018.
- Medical Loss Trend Annual Factor increased from 1.0% to 2.1%. Consequently, Medical Loss Trend Factors increased by 3.0% to 7.6%.
- The replacement of Accident Year 2013 experience with Accident Year 2018 experience in the five (5) year Traumatic Loss Cost analysis.
  - o For the April 1, 2019 filing, the Accident Year 2013 Loss Cost was estimated to be \$4.51.

o For the April 1, 2020 filing, the Accident Year 2018 Loss Cost is estimated to be \$5.54 with both Indemnity and Medical components increasing significantly.

These drivers generally decrease the Indemnity indications and increase the Medical indications. The Indemnity indication changed by -3.0%, from \$3.70 to \$3.59; while the Medical indication changed by 4.3%, from \$1.85 to \$1.93. Prior to the application of credibility and capping changes at +/- 25% by class, the Total Traumatic indication changed by -0.7%, from \$5.55 to \$5.51. The Total indication may not equal the sum of the parts due to rounding.

Credibility and capping procedures are applied on Exhibit V-A Page 1 to the Indicated Unloaded Loss Costs to produce the Proposed Unloaded Loss Costs which are also displayed on Exhibit II. Exhibit II shows the Proposed Unloaded Loss Costs Percent Change (after Credibility and Capping) for all classes combined is -2.0%. Also, the totals on Exhibit II are the result of using payroll for the most recent accident year as weights while the totals on Exhibit V-B Page 1 are the result of using payroll for the most recent five (5) accident years as weights. This result includes capping the change to the Anthracite Co-Gen class at +25%.

## State Occupational Disease (SOD) Loss Costs

The Current State Occupational Disease Loss Cost for all classes combined is \$0.52 based on 2018 payroll distribution. The Proposed level is \$0.56 or a change of 7.7%.

The key drivers of this change can be identified by comparing Exhibit III for the April 1, 2020 filing to the April 1, 2019 filing. These drivers include:

- For all classes combined, claim frequency changed by 14.6%.
  - o Claim frequency increased for three of the Major Four classes and decreased for four of the other six classes.
- For all classes combined, claim severity changed by -0.3%.
  - o Claim severity increased for six classes and decreased for four classes.
- The Proposed Loss Costs for Anthracite Underground and Bituminous Surface are capped at +25%. Also, the net change in Proposed Loss Costs does not equal the product of the claim frequency change and claim severity change because of the capping at +/-25%.

## Federal Occupational Disease (FOD) – Basic/Excess – Loss Costs

The Current Federal Occupational Disease Basic/Excess Loss Cost for all classes combined is \$0.68 based on 2018 payroll distribution. The Proposed level is \$0.64 or a change of -5.9%.

The Federal component of the filing consists of two parts, the Federal Basic and the Federal Excess as follows:

Current	Proposed	Change in
Loss Cost	Loss Cost	Loss Costs
\$ 0.56	\$ 0.51	-8.9%
<u>0.12</u>	0.13	<u>+8.3%</u>
\$0.68	\$0.64	-5.9%
	Loss Cost \$ 0.56 <u>0.12</u>	Loss Cost         Loss Cost           \$ 0.56         \$ 0.51           0.12         0.13

The Proposed Loss Costs are shown in Column (5) of Exhibit IV-A separately for Basic and Excess and in Total. The Currently Approved Unloaded Loss Costs are shown in Total (i.e., Basic and Excess combined) in Column (2) of Exhibit IV-A. The Total Current Loss Cost is split between Basic and Excess components using the Basic and Excess Loss Costs from Column (5) of Exhibit IV-A from the prior filing as weights.

The key drivers of this change can be identified by comparing Exhibit IV-A for the April 1, 2020 filing to the April 1, 2019 filing. These drivers include:

- For all classes combined, Basic claim frequency changed by -10.8%.
- For all classes combined, Excess claim frequency changed by 11.2%.
- For all classes combined, Basic claim severity changed by 0.3%.
- For all classes combined, Excess claim severity changed by 1.1%.
- The net change in Proposed Loss Costs does not equal the product of the claim frequency change and claim severity change because these three values do not all carry the same number of significant digits.

## Other Items

- The Small Business Advocate Assessment Ratio remains at 0.0001. (See Exhibit XI.) This amount is loaded into the CMCRB's Manual Loss Costs.
- The Employer Assessment Factor changes from 1.83% (or 0.0183) to 2.03% (or 0.0203). (See Exhibit XI-B.) This amount is not loaded into the CMCRB's Manual Loss Costs, but is treated as a separate calculation in the determination of policy premium. This amount is the estimated provision for Pennsylvania's Administrative Fund, Subsequent Injury Fund, Supersedeas Fund and Uninsured Employer Guaranty Fund.
- The overall Catastrophe Loss Cost provision changes from \$0.11 to \$0.12. (See Exhibit XII-A.) The provision varies by classification. These amounts are loaded into the CMCRB's Manual Loss Costs.
- The Experience Rating Plan parameters require a change to the Off-Balance Factor from 1.0040 to 1.0003. This factor is not included in the CMCRB's Manual Loss Costs, but is incorporated into the Experience Rating Plan's Rating Formula.
- The Merit Rating Plan Off-Balance Factor remains at 1.0002. (See Exhibit XIV-A, Page 1.) This amount is loaded into the CMCRB's Manual Loss Costs.
- The Safety Committee Credit Off-Balance Factor changes from 1.0158 to 1.0174. (See Exhibit XIV-B.) This amount is loaded into the CMCRB's Manual Loss Costs.

## Summary of Significant Changes from Last Year's Filing

Exhibit V-F Summary includes adjustment factors for House Bill 1840 (or Act 111 of 2018) that vary by Accident Year in lieu of the uniform adjustment for House Bill 1840 previously on this exhibit. These factors and their derivation are discussed in the section concerning Exhibit V-F of this report and are provided in Appendix B to this report.

Concerning Exhibit V-J, for the April 1, 2019 Filing, two claims (i.e., 49353 and 49538) for Accident Year 2017 individually exceeded the catastrophe limit (\$1,250,000) and were listed on a single Exhibit V-J page. For the April 1, 2020 Filing, these two claims now individually do not exceed the catastrophe limit, so a page for these claims is not included with the filing. However, four claims for Accident Year 2018 individually exceed the catastrophe limit and are listed on a single Exhibit V-J page. These changes also impact certain pages in the Exhibit V-B series concerning large loss limitations.

On Exhibit VI-D Page 1, the data that is displayed was reduced to 1994 through 2018 to match the data required for the loss development exhibits (i.e., Exhibit VI-B Pages 1 and 2) in lieu of displaying data back to 1983 (or data for 1983 through 2018), allowing for the print to be slightly larger. Note that the Adjustment Factors for Accident Years 1993 and earlier are not needed for this filing.

Exhibit VI-D Pages 2 through 15 were deleted and noted as reserved for future use. The Adjustment Factors for Accident Year 1994 did not change from the prior filing. The Adjustment Factors for Accident Years 1993 and earlier and the Sample Payment Patterns are not needed for this filing. Note that these pages were identical for the filings effective April 1, 2015 through April 1, 2019.

Exhibits XI-A and XI-B were combined into Exhibit XI. The data and calculations previously shown on the two separate Exhibits XI-A and XI-B are now shown on the single page exhibit, Exhibit XI.

Most Filing Exhibits were updated from the CMCRB's prior loss cost filing either by adding the data for the newest available Accident Year and deleting the data for the oldest Accident Year or by just adding the data for the newest available Accident Year.

On all exhibits, a checksum expression is displayed in the bottom right, typically under the label for the Effective Date of the subject filing. The formula that generates these checksums was modified to display only the checksum value. In other words, the term "Checksum" is no longer displayed on selected exhibits. Also, the "footer" fields (i.e., File (name), Run Date (and time), Author (PAB) and Effective Date fields) were revised for formatting consistency across all Exhibit pages. These fields are used for internal tracking purposes and comprise a non-substantive part of the filing.

## **Discussion of Filing Exhibits**

Many of the Filing Exhibits provide various totals and subtotals that are derived using current estimates of Developed Payrolls and/or Miner Years as weights. These totals and subtotals may differ from totals and subtotals shown in prior filings as the weights can and do change.

## Exhibit I – Current and Proposed Loss Costs

The I-A-M pages provide comparisons of the currently Approved Manual Loss Costs and the Proposed Manual Loss Costs by classification.

The I-A-UL pages provide comparisons of the currently Approved Unloaded Loss Costs and the Proposed Unloaded Loss Costs in the same format as the I-A-M pages. However, I-A-UL also includes a third page that presents the loss cost limitations by classification and by coverage.

The I-B pages present the Proposed Unloaded Loss Costs after limitations (see the I-A-UL discussion above), the loading of the Catastrophe Loss Costs, the application of the various Off-Balance factors and the Proposed Loaded Loss Costs (or Proposed Manual Loss Costs).

In addition to providing Loss Costs by classification and by coverage, the pages in Exhibit I also provide various totals and subtotals that are derived using the Developed Payrolls for the most recent Accident Year as weights.

#### Exhibit II – Traumatic Loss Cost Indications

This page presents the currently Approved Unloaded Loss Costs, the Indicated Unloaded Loss Costs and the Proposed Unloaded Loss Costs by classification. Changes from the currently Approved Unloaded Loss Costs to the Indicated Unloaded Loss Costs are capped or limited to +/- 25% to derive the Proposed Unloaded Loss Costs by classification.

This page also displays various totals and subtotals that are derived using the Developed Payrolls for the most recent Accident Year as weights.

## Exhibit III – State Occupational Disease Loss Cost Indications

This page presents the currently Approved Unloaded Loss Costs, the Indicated Loss Costs (the Indicated Loss Costs are the products of the Indicated Average Frequencies and the Indicated Average Severities) and the Proposed Loss Costs by classification. The Proposed Loss Costs equal the Indicated Loss Costs except where changes are limited to +/-25%.

This page also displays various totals and subtotals that are derived using the Developed Payrolls for the most recent Accident Year as weights.

## Exhibit IV – Federal Occupational Disease Loss Cost Indications

A. This page presents the currently Approved Unloaded Loss Costs, the Indicated Loss Costs (the Indicated Loss Costs are the sums of the products of the Indicated Average Frequencies and the Indicated Average Severities for FOD Basic and FOD Excess) and the Proposed Loss Costs (i.e., Loss Costs w/ Limitation 25%) by classification. The Proposed Loss Costs equal the Indicated Loss Costs except where changes are limited to +/-25%.

This page also displays various totals and subtotals that are derived using the Developed Payrolls for the most recent Accident Year as weights.

B. Page 1 displays the derivation of the FOD Basic Claim Frequencies. This process begins with the Indicated Claim Frequencies on a Miner Year basis developed in Exhibit IV-B Page 3. The Indicated Claim Frequencies are credibility weighted with the currently Approved FOD Basic Claim Frequencies trended (although the trend is 0%) to the current valuation level developed in Exhibit IV-B Page 4. After the application of credibility, the Credibility Weighted Indicated FOD Basic Claim Frequencies are converted to a Developed Payroll basis because the CMCRB publishes Loss Costs on a Payroll basis.

The Total of the Expected Awarded Claims for All Classes is assigned as the full credibility standard. The credibility factor for each classification is obtained as the ratio of the Expected Awarded Claims of a given class to the full credibility standard raised to the ½ power.

Page 2 displays the derivation of the FOD Excess Claim Frequencies. The Indicated Claim Frequencies are developed in Exhibit IV-B Page 5. The currently Approved FOD Excess Claim Frequencies are developed in Exhibit IV-B Page 6. Otherwise, this page works like Page 1.

Page 3 displays the derivation of the FOD Basic Claim Frequencies on a Miner Year Basis. This process involves weighting the Modeled Indications from Exhibit VIII-F with the Experience Indications from Exhibit VIII-B-2. The weights are 25% for the Modeled Indications and 75% for the Experience Indications.

Page 4 displays the conversions of the Approved FOD Basic Claim Frequencies from the prior filing that are on a Payroll basis to a Miner Year basis.

Page 5 displays the derivation of the FOD Excess Claim Frequencies on a Miner Year Basis. This process involves weighting the Modeled Indications from Exhibit VII-L with the Experience Indications from Exhibit VII-B-2. The weights are 25% for the Modeled Indications and 75% for the Experience Indications.

Page 6 displays the conversions of the Approved FOD Excess Claim Frequencies from the prior filing that are on a Payroll basis to a Miner Year basis.

These pages provide various totals and subtotals that are derived using Developed

Payrolls and/or Estimated Miner Years as weights as indicated.

#### Exhibit V – Traumatic Loss Information

This section of the filing produces the Proposed Traumatic Unloaded Loss Costs by classification.

A. Page 1 displays the derivation of the Proposed Traumatic Unloaded Loss Costs by classification. This process begins with the Indicated Traumatic Loss Costs developed in Exhibit V-B. The Indicated Traumatic Unloaded Loss Costs are credibility weighted with the currently Approved Traumatic Unloaded Loss Costs trended to the current valuation level. After the application of credibility, the Indicated Traumatic Unloaded Loss Costs are further limited to changes of +/-25% to produce the Proposed Traumatic Unloaded Loss Costs.

In addition to providing Traumatic Loss Costs by classification, this page also provides various totals and subtotals that are derived using the Developed Payroll shown in the column with these totals and subtotals as weights.

The credibility procedure assigns full credibility (i.e., 100% credibility or 1.00) to three (3) of the Four Major Classifications (i.e., Underground Bituminous, Surface Anthracite and Surface Bituminous). For the six (6) minor classifications, the credibility factor for each classification is obtained as the ratio of the Five Year Expected Losses of a given class to Five Year Expected Losses for Surface Bituminous raised to the ½ power. For the April 1, 2020 Filing, Bituminous Prep Plants also received full credibility given the level of Five Year Expected Losses for this class now exceeding the Five Year Expected Losses for Surface Bituminous.

The complement of the credibility is assigned to the currently Approved Traumatic Unloaded Loss Cost adjusted or trended to the current valuation level. The adjustment or on-level factor is the weighted average of the Indemnity and Medical Trends contained in this filing, weighted by the five (5) year Indemnity and Medical Ultimate Losses from Exhibit V-B, Page 1.

Page 2 shows the derivation of the Indicated Traumatic Unloaded Loss Cost for the Underground Anthracite classification. This value is derived by a different process since this classification has virtually no experience for the five (5) most recent Accident Years. This is the same procedure that was used in last year's filing.

B. These pages show the derivation of the Indicated Traumatic Unloaded Loss Costs by Classification. This process begins with the Reported Losses separately shown for Indemnity and Medical for the five (5) most recent Accident Years. It applies Loss Development and Trend Factors to adjust Reported Losses to Ultimate Losses. Finally, it compares Ultimate Losses to Developed Payroll to produce indicated Loss Costs by Accident Year and in Total. (Page 1 shows the Total for All Classifications Combined. Pages 2, 6, and 14 show subtotals for the noted classification groupings.)

The inclusion of claims in excess of \$1,250,000 has been limited on these pages. For this filing, Pages 3b and 9b display the calculations related to this limitation.

C. These pages show the derivation of the Selected Age-to-Age Loss Development Factors separately for Traumatic Indemnity and Medical Incurred Losses. The Selected Factors are based on the Derived Development Factors which are developed on Pages V-D-2 and V-E-2 for Indemnity and Medical respectively. The Selected Age-to-Age Factors are Accumulated in Column 8 to produce Selected Age-to-Ultimate Loss Development Factors. The Age-to-Ultimate Factors include a "tail" provision for loss development beyond 20<sup>th</sup> report level.

For Indemnity Incurred Losses, the Age-to-Ultimate Factors changed as follows for:

- 1:2 (1<sup>st</sup> report to ultimate) -4.0%,
- 2:3 (2<sup>nd</sup> report to ultimate) -1.7%,
- 3:4 (3<sup>rd</sup> report to ultimate) -0.8%,
- 4:5 (4<sup>th</sup> report to ultimate) 0.3%,
- 5:6 (5<sup>th</sup> report to ultimate) 0.4% and
- 6<sup>th</sup> report to ultimate and beyond in the range of 0.0% to 0.4%.

For Medical Incurred Losses, the Age-to-Ultimate Factors changed as follows for:

- 1:2 (1<sup>st</sup> report to ultimate) -4.8%,
- 2:3 (2<sup>nd</sup> report to ultimate) -2.0%,
- 3:4 (3<sup>rd</sup> report to ultimate) -0.4%,
- 4:5 (4<sup>th</sup> report to ultimate) -0.3%,
- 5:6 (5<sup>th</sup> report to ultimate) -0.3% and
- 6<sup>th</sup> report to ultimate and beyond in the range of -0.2% to 0.5%.
- D. These pages show the development of the Derived Traumatic Indemnity Loss Development Age-to-Age factors and include the development of the Tail Factor.

Page 1 is the same as VI-A-4. The Age-to-Age factors from this page are used on V-D-2. For additional information, please refer to the discussion for VI-A-4.

Page 2 shows the (Actual) Age-to-Age Factors and the Derived (or Modeled) Age-to-Age Factors for Traumatic Indemnity Incurred Losses. Examination of the Age-to-Age factors suggested that the factors from the first four (4) periods should be accepted without adjustment and that the factors for the remaining periods should be replaced with modeled or derived factors. The same determination was made for last year's filing.

The CMCRB decided that a linear model was reasonable and found to produce acceptable results. Similar to the model fitting approach in last year's filing, several assumptions were used to produce the model.

- The model needed to have a slight downward slope and to accept that loss development beyond some point in time was going to be zero (i.e., that loss development factors beyond some point would be 1.0000).
- The model needed to produce factors such that the upward accumulation of the derived factors would equal the upward accumulation of the actual factors from the experience period (i.e., period 5 through 19). The accumulation of these fifteen (15) factors is 15.02030, producing an average of 1.00135.
- The model would be linear and have the form y(t) = x at.
- The model needed to have a value equal to the average of the experience data at the midpoint of the period that produced the data. Expressed algebraically,

the midpoint of the period is 12 and the average of the experience period is 1.00135, so y(12) = 1.00135.

• Development beyond 10 years after the end of the experience period would not be expected. Again, expressed algebraically,

the period associated with this assumption is 29 and the value of the function is 1.0001, so y(29) = 1.0001. (Beyond period 29, all factors are assumed to be 1.0000.)

• These conditions result in the following system of equations:

$$y (12) = 1.00135 = x - (a) (12)$$
 and  $y (29) = 1.0001 = x - (a) (29)$ .

• The solution for this system of equations was found to be:

a = 0.0000737 and x = 1.002238.

- Given these values, y (5) is determined to be 1.0019 = 1.002238 (0.0000737)(5). (Note that rounding can have a slight impact on the calculations.) This value is entered on Line 5 of Column (5). The following numbers in this column are generated by subtracting 0.0000737.
- The Modeled Factors from periods 20 through 29 in Column (10) are accumulated upward in Column (11) to produce the CMCRB tail factor. The CMCRB tail factor is then averaged with the PCRB tail factor to produce the Selected tail factor.

Page 3 provides the Age-to-Age Indemnity Incurred Loss Development Factors from the most recent PCRB filing. The Tail Factor (or "20 to Ult" Factor) from this page is used on V-D-2. The PCRB Age-to-Age Factors are compared to the CMCRB Age-to-Age Factors on V-C-1.

E. These pages show the development of the Derived Traumatic Medical Loss Development Age-to-Age factors and include the development of the Tail Factor.

Page 1 is the same as VI-B-4. The Age-to-Age factors from this page are used on V-E-2. For additional information, please refer to the discussion for VI-B-4.

Page 2 shows the (Actual) Age-to-Age Factors and the Derived (or Modeled) Age-to-Age Factors for Traumatic Medical Incurred Losses. Examination of the Age-to-Age factors

suggested that the factors from the first two (2) periods should be accepted without adjustment and that the factors for the remaining periods should be replaced with modeled or derived factors. The same determination was made for last year's filing.

To begin, the CMCRB's Age-to-Age Factors were averaged with the PCRB's Age-to-Age Factors for the periods 10 to 19 to produce Adjusted Age-to-Age Factors. The CMCRB's Age-to-Age Factors were used for periods 3 through 9.

Next, the CMCRB decided that a model of the form  $y(t) = (x) (a^{t-3})$  was reasonable and found to produce acceptable results. Similar to the model fitting approach in last year's filing, several assumptions were made to derive the fitted model.

- The geometric mean of the product of the Adjusted Age-to-Age Factors from periods 3 through 19 was calculated and found to be 1.0044793. (There are 17 factors from t=3 to t=19 so the geometric mean is (0.9966 x 1.0133 x .... x 1.0095) ^ (1/17)).
- The length of the development period beyond the end of the experience period was chosen to be 19 years. Development is not expected at the 39<sup>th</sup> report level and beyond. Development factors beyond 38<sup>th</sup> report are assumed to be 1.0000. The development factor for period 38 is assumed to be 1.0001.
- The model needed to produce factors such that the upward accumulation of the derived factors would equal the upward accumulation of the actual factors from period 3 through 19. This accumulation is 1.0789.
- The model needed to have a value equal to the geometric average of the experience data at the midpoint of the period that produced the data. Since the data that is being used runs from t=3 to t=19 the midpoint is at t=11. Thus, y (11) = 1.0044793.
- These conditions result in the following system of equations:

$$y (11) = 1.0044793 = (x) (a^8)$$
 and  $y (38) = 1.0001 = (x) (a^{35})$ .

• The solution for this system of equations was found to be:

$$a = 0.999838$$
 and  $x = 1.00578$ .

- At this point, the value 1.00578 (displayed as 1.0058) is entered on Line 3 (for Period 3) of Column 6. The Factor for Period 4 is obtained as (1.00578) times (0.999838). The factor 'a' is applied to each of the succeeding Factors until Period 38 is reached. The system is very sensitive to the precision of the parameters. If the initial choices are abbreviated, the goals may not be met (e.g., the accumulated value may not be 1.0789 and/or the last point may not be 1.0001).
- The Modeled Factors from periods 20 through 38 in Column (9) are accumulated upward in Column (10) to produce the CMCRB (derived) tail factor. The CMCRB tail factor is then averaged with the PCRB tail factor to produce the Selected tail factor.

Page 3 provides the Age-to-Age Medical Incurred Loss Development Factors from the most recent PCRB filing. The Tail Factor (or "20 to Ult" Factor) from this page is used on V-E-2. The PCRB Age-to-Age Factors are compared to the CMCRB Age-to-Age Factors on V-C-2.

F. This page shows the selected Traumatic Annual Trend Factors separately for Indemnity and Medical losses that are derived from Exhibit V-K. Since the Annual Trend Factors are applied separately to the five (5) most recent Accident Years, the page also shows the Trend Period for each of those five (5) years and the Trend Factor for each Accident Year.

In addition to traditional trend factors and calculations, this page also allows for adjustments related to other changes. For this filing, other changes include HB 1846 of 2014 and HB 1840 (or Act 111 of 2018).

Concerning HB 1846, the CMCRB applied a uniform savings of 1.32% or a factor of 0.9868 to all Accident Years with the December 16, 2015 revision to the April 1, 2016 Filing. For the April 1, 2017 through April 1, 2019 Filings, the CMCRB proposed adjustment factors that varied by Accident Year and maintains that approach for the April 1, 2020 Filing. These factors and their derivation are provided in Appendix A to this report.

Concerning HB 1840, the CMCRB applied a uniform additional charge of 1.59% or a factor of 1.0159 for all Accident Years for the April 1, 2019 Filing. For the April 1, 2020 Filing, the CMCRB proposes adjustment factors that vary by Accident Year. These factors and their derivation are provided in Appendix B to this report.

- G. This page is reserved for future.
- H. Page 1 provides a summary of the Traumatic Indemnity Losses. Page 2 provides a summary of the Traumatic Medical Losses. The data on these pages support calculations on the Exhibit V-I pages.
- I. Exhibit V-I is comprised of six (6) pages. Each page is used to estimate one of the trend parameters that are considered as follows:
  - Page 1 Traumatic Indemnity Loss Severity Trend
  - Page 2 Traumatic Medical and Medical Only Loss Severity Trend
  - Page 3 Traumatic Medical Only Loss Severity Trend
  - Page 4 Traumatic Indemnity Claim Frequency Trend
  - Page 5 Traumatic Indemnity Claim Frequency Trend Net of Wage Trend
  - Page 6 Traumatic Medical excluding Medical Only Loss Severity Trend

Each of these six (6) pages is provided for three (3) different scenarios as follows:

- Summary these pages show the data under consideration for each parameter, the result for each parameter from Exhibit V-K which averages the 12 estimates that are considered, a graph of the data indicated and an algebraic expression of the line of best fit.
- Estimates 01-06 these pages show the data under consideration for each parameter and the following six (6) estimates:

- o Estimates 01 & 02 are based on the ten (10) most recent Accident Years.
- o Estimates 03 & 04 are based on the nine (9) most recent Accident Years.
- o Estimates 05 & 06 are based on the eight (8) most recent Accident Years.
- Estimates 07-12 these pages show the data under consideration for each parameter and the following six (6) estimates:
  - o Estimates 07 & 08 are based on the nine (9) most recent Accident Years before the most recent Accident Year.
  - o Estimates 09 & 10 are based on the eight (8) most recent Accident Years before the most recent Accident Year.
  - O Estimates 11 & 12 are based on the seven (7) most recent Accident Years before the most recent Accident Year.

The twelve (12) estimates utilize a geometric average, a regression analysis, a 3-year moving average and the various experience periods listed above. These estimates also utilize data with certain extreme values limited as noted on each page.

- J. On these pages, individual Traumatic claims that exceed \$1,250,000 after loss development are proportioned based on reported medical and indemnity. The CMCRB believes that limiting these claims helps to stabilize the trend indications.
  - Exhibit V-J included in the current filing shows data for four large claims for Accident Year 2018 that individually exceed the catastrophe limit. Note that the claims previously reported for Accident Year 2017 do not exceed the threshold (\$1,250,000) at this evaluation. While the Reported Incurred amounts for these claims did not change significantly, the Loss Development Factors for claims at second report level are significantly lower than the Loss Development Factors for claims at first report level, resulting in the lower valuation for this filing.
- K. Exhibit V-K summarizes the twelve (12) estimates of each trend parameter under consideration from the various pages of Exhibit V-I. This exhibit also displays the selected Claim Frequency, Indemnity Severity and Medical Severity Trend Factors. Additionally, on this exhibit, changes to the Composite Trend Factors are capped at +/-3.0 percentage points from the factors used in prior filing, when applicable.

In prior filings, the CMCRB generally selected trend estimates using averages of some or all of the Estimates 1-12, citing the estimates that were included and the rationale associated with these decisions. For example, for the April 1, 2018 Filing, the CMCRB selected trend estimates using the Average of Estimates 1-4 and 7-10, noting that the estimates that began with Accident Year 2009 involved exceptional variability (especially for Indemnity Severity).

For the April 1, 2019 Filing, the CMCRB departed from this approach, noting that the prior approach did not provide reasonable results. For the April 1, 2020 Filing, the CMCRB maintains the same concern and offers the following expanded discussion concerning the Traumatic trend factor selections displayed on Exhibit V-K.

The CMCRB notes that our database is very small and inherently volatile especially with respect to Traumatic loss trend estimation techniques. Oftentimes, the selection of the years that are used to begin or end a loss trend estimation technique significantly changes the trend estimate that is produced. While this is not a new observation per se, the data in the subject filing continue to seem very sensitive to these considerations.

In calculating and selecting trend assumptions, the CMCRB considers several basic assumptions or observations that include, but are not limited to, the following:

- Claim Frequency Trend The CMCRB notes that a modest negative claim frequency trend has existed in Pennsylvania for over 20 years and that this is evident in the CMCRB's data and in the PCRB's data. The CMCRB also understands that this phenomenon exists in W.C. data outside of Pennsylvania, but that this phenomenon might not be as consistent outside of Pennsylvania.
- Indemnity Severity Trend The CMCRB believes that Indemnity Severity Trend is most influenced by wage inflation. However, other conditions or circumstances also influence Indemnity Claim Severity that are more difficult to quantify (e.g., mix of injury severities under consideration).
- Medical Severity Trend The CMCRB believes that Medical Severity Trend is
  most influenced by medical cost and utilization inflation. However, like
  Indemnity Claim Severity, Medical Claim Severity is also influenced by other
  conditions or circumstances that are more difficult to quantify (e.g., mix of injury
  severities under consideration).
- Indemnity and Medical Severity Trend relationship The CMCRB generally
  expects medical cost and utilization inflation to exceed wage inflation and that
  Indemnity Severity Trends will usually be slightly lower than Medical Severity
  Trends
- Although the CMCRB believes that the theories behind the assumptions listed above are sound and generally well accepted, the CMCRB also believes that actual data should relied upon to the extent that it is reliable and reasonable.

The CMCRB prepares a variety of trend estimates based on a review of metrics from actual data for the ten most recent Accident Years. The selected trend assumptions are then applied to the most recent five Accident Years. The new Accident Year is least affected by the selected trend assumptions, while the oldest Accident Year is most affected. See Exhibit V-F for the calculations that underlie this statement.

Essentially, each of the five most recent Accident Years produces an estimate of the Loss Costs (or the Claim Frequencies or Claim Severities) that are under consideration. Consequently the CMCRB expects the results for the five most recent Accident Years to be randomly scattered around a horizontal straight line. Of course, with a limited database, actual results can and do vary from this expectation.

#### **Traumatic Trend Factor Selections**

• The CMCRB selected a Claim Frequency Trend of -2.75%. This selection results in a 5-year weighted average trended Claim Frequency of 9.0 which is lower than

all five of the most recent years. It also produces a fairly good fit of the data for the last nine years.

- The CMCRB selected an Indemnity Severity Trend of 4.0%. This selection results in a 5-year weighted average trended claim severity of \$69,199 which is higher than all five of the most recent years. However, this result seems reasonable when compared to the 3-year weighted average trended claim severity of \$70,166 and 9-year weighted average trended claim severity of \$67,865. Note that claim severities remain considerably higher for 2015 through 2018 than earlier years.
- The CMCRB selected a Medical Severity Trend of 5.0%. This selection results in a 5-year weighted average trended claim severity of \$12,768 which is lower than the two most recent year and higher than the other prior years. This result seems reasonable compared to the 3-year weighted average actual claim severity of \$12,749. However, claim severities remain considerably higher for 2016 through 2018 than earlier years.

Observations about Loss Ratio Trends (or Composite Trends)

- Although the CMCRB prefers to separately review Claim Frequency and Claim Severity Trend estimates, the CMCRB notes that the Claim Frequency Trend times the Claim Severity Trend is equivalent to the Loss Ratio Trend.
- Therefore, the CMCRB's implied Indemnity Loss Ratio Trend is the product of 0.9725 (i.e., the selected -2.75% Claim Frequency Trend) and 1.040 (i.e., the selected 4.0% Indemnity Severity Trend) which equals 1.011 (or 1.1%).
- Similarly, the CMCRB's implied Medical Loss Ratio Trend is the product of 0.9725 (i.e., the selected -2.75% Claim Frequency Trend) and 1.050 (i.e., the selected 5.0% Medical Severity Trend) which equals 1.021 (or 2.1%).

## Exhibit VI – Traumatic Loss Development

The CMCRB notes that Act 44 of 1993 and Act 57 of 1996 significantly affected Traumatic Indemnity and Medical benefit levels and claim settlement practices (and consequently Traumatic Loss Development data reported to the CMCRB). The CMCRB calculates and applies adjustments to address these effects to its reported loss development data in the various pages of Exhibit VI and briefly discusses the more significant aspects of its work below.

A. Page 1 displays Reported Traumatic Indemnity Incurred Losses by Accident Year and by Report Level, Act 57 Indemnity Law Adjustment Factors and Reported Traumatic Indemnity Incurred Losses adjusted to Act 57 Law Level.

Page 2 displays Reported Traumatic Indemnity Incurred Losses adjusted to Act 57 Law Level, Claim Settlement Level Additives and Reported Traumatic Indemnity Incurred Losses adjusted to Act 57 Law Level and Claim Settlement Level.

Page 3 displays Reported Traumatic Indemnity Incurred Losses by Accident Year and by Report Level, the Sum of Act 57 Indemnity Law Adjustment Factors and Claim Settlement Level Additives and Reported Traumatic Indemnity Incurred Losses adjusted to Act 57 Law Level and Claim Settlement Level.

Page 4 displays Reported Traumatic Indemnity Incurred Losses adjusted to Act 57 Law Level and Claim Settlement Level by Accident Year and by Report Level. It also shows the report-to-report Development factors, as well as the averaging and selection of report-to-report factors (i.e., the Average of Middle Four).

Pages 5a, 5b and 5c display the summary and derivation of the Traumatic Indemnity Claim Settlement Adjustment Factors.

When calculating loss development factors, the primary premise is that the loss development factors must be in direct relationship with the losses being developed. The CMCRB uses data for the five (5) most recent Accident Years when calculating indicated Traumatic Loss Costs by classification (see Exhibit V-B) and notes that this data (or these five (5) years) are all on a post Act 57 Law and Claim Settlement level. Since the historical Loss Development data is not all consistently on this same level, the adjustments identified above are used to restate the historical Loss Development data to a post Act 57 Law and Claim Settlement level. In this way, both the losses to be developed from the five (5) most recent Accident Years and the loss development factors are on the same level or basis.

The CMCRB notes that Act 57 reduced Indemnity benefits in various ways. The more significant provisions of Act 57 involved changes to the AMA Guidelines, Social Security Offsets, Pension Offsets and Wage Level Offsets. The changes to Indemnity benefits are addressed by the Act 57 Indemnity Law Adjustment factors.

The CMCRB also notes that Act 57 permitted and recommended the settlement of Traumatic claims. The changes in claim settlement practices are addressed by the Claim Settlement Level Additives (or adjustments).

The CMCRB observes that both sets of adjustments seem to be well known and accepted. Furthermore, these adjustments become less relevant each year as more data is reported directly on a post Act 57 basis.

During 2017, the Pennsylvania Supreme Court made a decision in Protz v. WCAB that invalidated a portion of the Act 57 revisions. Subsequently, the Pennsylvania Legislature passed legislation that Governor Wolf signed on October 24, 2018, (Act 111 of 2018) to generally reinstate the provisions invalidated by this decision. The previously mentioned law and claim settlement adjustments used in the Exhibit VI series do not address the effect of this decision or this legislation. Refer to Exhibit V-F, the discussion concerning Exhibit V-F and Appendix B to this report for additional information concerning the treatment of the Protz Decision and Act 111 of 2018.

B. Page 1 displays Reported Traumatic Medical Incurred Losses by Accident Year and by Report Level, Act 44 Medical Law Adjustment Factors and Reported Traumatic Medical Incurred Losses adjusted to Act 44 Law Level.

Page 2 displays Act 44 Medical Law Adjustment Factors, Claim Settlement Adjustment Additions and the Sum of these adjustments.

Page 3 displays Reported Traumatic Medical Incurred Losses by Accident Year and by Report Level, the Sum of Act 44 Medical Law Adjustment Factors and Claim Settlement Adjustment Additions and Reported Traumatic Medical Incurred Losses adjusted to Act 44 Law and Claim Settlement Levels.

Page 4 displays Reported Traumatic Medical Incurred Losses adjusted to Act 44 Law and Claim Settlement Levels by Accident Year and by Report Level. It also shows the report-to-report Development factors, as well as the averaging and selection of report-to-report factors (i.e., the Average of Middle Four).

Page 5 provides the derivation of the Medical Claim Settlement Adjustment Factors which are used on Page 2.

When calculating loss development factors, the primary premise is that the loss development factors must be in direct relationship with the losses being developed. The CMCRB uses data for the five (5) most recent Accident Years when calculating indicated Traumatic Loss Costs by classification (see Exhibit V-B) and notes that this data (or these five (5) years) are all on a post Act 44 Law and Claim Settlement level. Since the historical Loss Development data is not all consistently on this same level, the adjustments described above are used to restate the historical Loss Development data to a post Act 44 Law and Claim Settlement level. In this way, both the losses to be developed from the five (5) most recent Accident Years and the loss development factors are on the same level or basis.

Similar to a comment under the Indemnity section above, the CMCRB observes that both sets of adjustments seem to be well known and accepted. Furthermore, these adjustments become less relevant each year as more data is reported directly on a post Act 44 basis.

During 2014, the Pennsylvania legislature passed House Bill 1846. The previously mentioned law and claim settlement adjustments used in the Exhibit VI series do not address the effect of this legislation. Refer to Exhibit V-F, the discussion concerning Exhibit V-F and Appendix A to this report for additional information concerning the treatment of HB 1846 of 2014.

C. Page 1 displays Reported Traumatic Indemnity Incurred Claims by Accident Year and by Report Level. It also shows the report-to-report Claim Count Development factors, the averaging and selection of report-to-report factors, the Cumulative Claim Count Development factors and the estimated Ultimate Claim Counts for each Accident Year.

Page 2 displays Reported Traumatic Medical Only Incurred Claims by Accident Year and by Report Level. Otherwise, the format follows the format of Page 1.

Page 3 displays Reported Traumatic Medical Only Incurred Losses by Accident Year and by Report Level. The format is similar to Pages 1 and 2, except that only ten (10) report levels are displayed.

- D. Page 1 presents the Summary of Adjustments to Traumatic Medical Loss Development Factors related to Act 44. Pages 2 through 15 are reserved for future use.
- E. This page presents the Traumatic Indemnity and Medical Paid Loss information by Accident Year and Report Level arranged in traditional loss development format. The CMCRB has only collected Paid Loss information for the period displayed.

## Exhibit VII – SOD and FOD Excess Severity and Frequency

A. These five (5) pages show the Average SOD and FOD Excess Severities prior to adjustments for Act 57, adjustments for Act 57 and after adjustments for Act 57. One page is provided for each of the Four Major Classes and for the Other Classes combined.

These pages display severity values (i.e., Average Amounts and/or Totals) that are summaries of the details found in Exhibit VII-E, Exhibit IX-A and Exhibit VII-G. These pages average the Base Scenario with the All Permanent Partial Scenario using weights of 100% and 0% respectively, since no claims have been reported as Permanent Partial.

Sections "a" (After AMA Guidelines), "b" (Social Security Offset/Onset) and "c" (Pension Offset/Onset) are addressed in the discussion for Exhibit IX-A. (See Exhibit IX-A for a discussion about these amounts.)

Section "d" (Combined Social Security and Pension Offsets/Onsets) recognizes the condition that the full amount of the pension is available as an Offset to the SOD benefit with the constraint that the SOD benefit minus the Social Security and Private Pension Offsets must not be less than zero.

Section "e" (Wage Level Decrease/Increase) is no longer used.

Section "f" (Combined Social Security, Pension and Wage Level) presents percentages that are equivalent to the percentages in Section "d" since Section "e" is no longer used.

Section "g" (Combined Dollar Effect) summarizes the effect in dollars of the various Offsets and Onsets calculated on these pages.

B-1. Exhibit VII-B-1-A displays the derivation of the SOD Claim Frequencies by Classification on a Developed Payroll basis. This process begins with the Indicated Claim Frequencies on a Miner Year basis developed in Exhibit VII-B-2. The Indicated Claim Frequencies are credibility weighted with the currently Approved SOD Claim

Frequencies trended (although the trend is 0%) to the current valuation level developed in Exhibit VII-B-1-B. After the application of credibility, the Credibility Weighted Indicated SOD Claim Frequencies are converted to a Developed Payroll basis because the CMCRB publishes Loss Costs on a Payroll basis.

The Total of the Expected Awarded Claims for All Classes is assigned as the full credibility standard. The credibility factor for each classification is obtained as the ratio of the Expected Awarded Claims of a given class to the full credibility standard raised to the ½ power.

Exhibit VII-B-1-B displays the conversions of the Approved SOD Claim Frequencies from the prior filing that are on a Payroll basis to a Miner Year basis.

Both of these pages provide various totals and subtotals that are derived using Developed Payrolls or Estimated Miner Years as weights as indicated in the Source notes. The totals and subtotals may differ from prior filings as the weights can and do change.

B-2. The objective of these pages is to compare estimates of the Expected Ultimate Awarded Claims to a suitable exposure base. These pages display data on the number of SOD Claims that have been Reported, Awarded or Denied, or that are Pending by Classification and with Subtotals and a Grand Total. Additionally, the IBNR Claim estimates from Exhibit VII-C are also displayed. IBNR and Pending claims are multiplied by an Award Ratio, since all reported claims do not result in payment awards.

For the exposure base, Developed Payrolls are converted to Estimated Miner Years. Subsequently, Claim Frequencies are calculated on a Miner Year (per 100 Miner Years) basis which began with the filing for April 1, 2011.

Converting Developed Payrolls to Estimated Miner Years, the (Wage) Adjustment Factors are needed since our data shows that workers in certain Bituminous Classes (i.e., Underground and Prep Plant) were paid at a higher rate than workers in other classes. (See Exhibit X-G for this analysis.) The use of a single factor for all classes would overestimate the number of Miner Years in the cited classes and underestimate the number of Miner Years in other classes had a single factor been used to adjust the SAWW in the conversion process.

Given the limited number of Denied Claims in this data, each Class was given the Award Ratio based on the Grand Total data.

The totals and subtotals that are displayed are additions of the Classes listed and may slightly differ from the results derived using the formula in the Source notes.

Federal Excess Frequencies are also calculated on these pages as the products of the State Frequencies times a Federal Excess Award Ratio of 40%. This ratio has been used since the April 1, 2004 filing (and possibly earlier) and remains comparable to the ratio of FOD Excess Awarded and Pending Claims to SOD Awarded and Pending Claims.

C. Pages 1 through 4 (i.e., Exhibit VII-C-1 through VII-C-4) display SOD Reported Claims for the Four (4) Major Classifications. Page 5 (i.e., Exhibit VII-C-5) displays SOD Reported Claims for the six (6) Other Classifications combined. Page 6 (i.e., Exhibit VII-C-6) shows SOD Reported Claims for All Classifications combined.

These pages show the procedure used to calculate Incurred But Not Reported (IBNR) Claims. Incremental Changes in Reported Claims are calculated and then converted to a percentage of Developed Payroll (in \$Millions). The actual experience is averaged and then smoothed by ordering the actual data from largest to smallest.

For the six (6) Other Classifications, the All Classifications estimates were used to arrive at the base IBNR. Pages 7 and 8 (i.e., Exhibit VII-C-7 and VII-C-8) show the IBNR calculations for the Other Classifications. Adjustment Factors were used for each of the Other Classifications to lower the expected probability of having a SOD claim since the Other Classifications have produced fewer SOD claims and lower SOD claim frequencies than the All Classifications experience with one exception. The Adjustment Factor for Anthracite Prep Plant was maintained at unity (i.e., no adjustment) because this Class has produced more claims and higher claim frequencies than the rest of the Other Classifications.

- D. Omitted Reserved for Future Use
- E. This exhibit consists of six (6) subsections (i.e., a, b, c, d, e and f). Each subsection consists of five (5) pages (one page for each of the Four Major Classes and one page for the Other Classes combined). The subsections show the following severities or severity adjustments:
  - a SOD Before Act 57
  - b SOD Social Security Offset
  - c SOD Private Pension Offset
  - d Federal Excess OD Before Offsets
  - e Federal Excess OD After Social Security Offset
  - f Federal Excess OD After Social Security and Private Pension Offsets

These pages display the individual claim detail from Exhibit IX-A by status (i.e., Awarded-Permanent, Awarded-Commuted/Compromised, and Pending). Since Pending claims could be resolved by Commutation or Compromise, the probability of Commutation/Compromise is assigned to the Pending claims based on the mix of Commuted/Compromised claims in the Awarded claims. The severity for the expected Commuted/ Compromised claims within the Pending claims is then adjusted by the difference between the Average Awarded Commuted/Compromised Severity and the Average Awarded Permanent Severity. This adjustment results in a lower SOD cost and a higher FOD Excess cost.

F. Omitted – Reserved for Future Use

G. Page 1 displays the Smoothed Average Weekly Wages for the Four Major Classes from Exhibit VII-H and the process to convert these Wages to a post-Act 57 level, where needed. The post-Act 57 Wages are used in the Occupational Disease Severity Model.

The top of Page 2 shows the calculation of the Act 57 Wage Level Offset or the Wage Level decrease associated with Act 57. The Wage Level Changes included in Act 57 are expected to reduce State benefit levels and consequently increase Federal Excess benefit levels. The wage distribution is from the 120 State OD claims provided by CMCRB for the CM-1-1998 filing, with judgmental trending to estimate the distribution of wages among miners during the projected effective period of the loss costs. The average benefit levels before and after the changes were developed by PCRB.

The bottom of Page 2 shows the development of the 12.5% Pension Offset factor. This adjustment is made because not all miners are eligible for a private pension and not all private pension payments are subject to offset.

- H. These pages show the development of the Projected Average SOD Wage Level for each of the Four Major Classes. For each class, an average ratio of the Reported (or Actual) SOD Average Wage to the Statewide Average Weekly Wage is calculated. The product of the ratio for each class and the projected Statewide Average Weekly Wage results in a Projected Average SOD Wage Level for each class. The Wage History for 1990 through 2018 (the most recent year that data is available) is then smoothed for use in the indexation process in Exhibit VII-G.
- I. Omitted Reserved for Future Use
- J. Page 1 shows the historical Social Security Cost of Living Adjustments (COLA), the 3-year, 5-year, 10-year and All-year averages of these amounts and the Selected Annual Change. Page 2 shows the projection of the Monthly Wage Amounts Bend Points and the Annual Social Security Wage Base used to calculate the Primary Insurance Amount (PIA) or Social Security benefit. These amounts are projected to one (1) year past the proposed effective date, which is the average accident date of the proposed loss costs. Page 3 provides examples as to how the bend points and maximum are used.
- K. Omitted Reserved for Future Use.
- L. These pages model changes to Claiming activity (i.e., Claim Awarding and Reopening) for FOD Excess Claims that are related to Federal Black Lung Regulation revisions that were issued on January 19, 2001. Generally, the reasoning for these calculations and assumptions follows the reasoning for Exhibit VIII-F, which is presented later in the commentary for Exhibit VIII-F. The differences in the calculations and assumptions between Exhibit VIII-L and Exhibit VIII-F are discussed as follows.

Exhibit VII-L uses data for the most recent twenty (20) years whereas Exhibit VIII-F only uses data for the most recent ten (10) years. Since the CMCRB believes that

different assumptions should apply to the pre-2001 years and the post-2000 year, the different or additional assumptions and calculations on these pages include the following:

- Pending Awarded Ratios the Award Ratio of 30% applies to all years.
- Denied Reopened Ratios
  - o The Reopened Ratio of 5% applies to the post-2000 years.
  - o A Reopened Ratio of 15% applies to the pre-2001 years.
- Denied Awarded
  - o The Award Ratio of 100% applies to the post-2000 years.
  - o An Award Ratio of 20% applies to the pre-2001 years.
- IBNR Award Ratios the IBNR Award Ratios that are shown on each page are the ratios of the Ultimate Awarded Claims (Col. 8) and the Reported Claims (Col. 1) from the Grand Total data on page 13 for the pre-2001 years and post-2000 years respectively.
- All of these assumptions have been maintained since the April 1, 2009 filing.

The IBNR amounts in Column 10 are 40% of the SOD IBNR Amounts from Exhibit VII-C. The reasoning for and history of this assumption was provided under Exhibit VII-B-2 above.

## Exhibit VIII – FOD Basic Severity and Frequency

- A. This page provides a summary of the individual claim details that are shown in Exhibit IX-B for the Federal Basic Severities separately for each of the Four Major Classes, the Four Major Classes Combined, the Other Classes Combined and All Classes Combined.
- B-1. Omitted Reserved for Future Use.
- B-2. The objective of these pages is to compare estimates of the Expected Ultimate Awarded Claims to a suitable exposure base. These pages display data on the number of FOD Basic Claims that have been Reported, Awarded or Denied, or that are Pending by Classification and with Subtotals and a Grand Total. Additionally, the IBNR Claim estimates from Exhibit VIII-C are also displayed. IBNR and Pending claims are multiplied by an Award Ratio, since all reported claims do not result in payment awards.

For the exposure base, Developed Payrolls are converted to Estimated Miner Years. Subsequently, Claim Frequencies are calculated on a Miner Year (per 100 Miner Years) basis which began with the filing for April 1, 2011.

Converting Developed Payrolls to Estimated Miner Years, the (Wage) Adjustment Factors are needed since our data shows that workers in certain Bituminous Classes (i.e., Underground and Prep Plant) were paid at a higher rate than workers in other classes. (See Exhibit X-G for this analysis.) The use of a single factor for all classes would overestimate the number of Miner Years in the cited classes and underestimate the number of Miner Years in other classes had a single factor been used to adjust the SAWW in the conversion process.

Each of the Four Major Classes is given its own Award Ratio, except that the data for Anthracite Underground is now incomplete for this purpose. Anthracite Underground was given an Award Ratio of 0.200, based on the actual Award Ratio for this class for the April 1, 2017 Filing. The Other Classes were given the Award Ratio based on the Grand Total data.

The totals and subtotals that are displayed are additions of the Classes listed and may slightly differ from the results derived using the formula in the Source notes.

C. Pages 1 through 4 (i.e., Exhibit VIII-C-1 through VIII-C-4) display FOD Basic Reported Claims for the Four (4) Major Classifications. Page 5 (i.e., Exhibit VIII-C-5) displays FOD Basic Reported Claims for the six (6) Other Classifications combined. Page 6 (i.e., Exhibit VIII-C-6) shows FOD Basic Reported Claims for All Classifications combined. (FOD Excess Reported Claims are addressed in Exhibits VII-B-2 and VII-L.)

These pages show the procedure used to calculate Incurred But Not Reported (IBNR) Claims. Incremental Changes in Reported Claims are calculated and then converted to a percentage of Developed Payroll (in \$Millions). The actual experience is averaged and then smoothed by ordering the actual data from largest to smallest.

For the six (6) Other Classifications, the All Classifications estimates were used to arrive at the base IBNR. Pages 7 and 8 (i.e., Exhibit VIII-C-7 and VIII-C-8) show the IBNR calculations for the Other Classifications. Adjustment Factors were used for each of the Other Classifications to lower the expected probability of having a FOD Basic claim since the Other Classifications have produced fewer FOD Basic claims and lower FOD Basic claim frequencies than the All Classifications experience. The adjustment factors were not changed this year.

- D. This page displays the Table of the Monthly Federal Black Lung Benefits from 1981 to the present. It also shows the changes in benefits from year to year and the selected change rates that were used to project FOD losses to the average accident date anticipated for the proposed filing.
- E. Omitted Reserved for Future Use.
- F. These pages model changes to Claiming activity (i.e., Claim Awarding and Reopening) for Federal Basic OD Claims that are related to Federal Black Lung Regulation revisions that were issued on January 19, 2001. These revisions changed the procedures and criteria for obtaining Federal Black Lung Benefits resulting in the natural expectation that the frequency of Federal Black Lung claims would increase. Some of the regulatory changes involved limiting evidence and time to contest, broadening the definition of Black Lung disease, weakening the criteria for determining disability, offering new claim status (as opposed to subsequent and reopened status) to claims, and changing attorney and witness fees.

These changes were expected to increase claim frequencies in the post-2000 years to a greater level than had been previously observed and to increase the claim frequencies in the pre-2001 years as well. Most parties agreed that frequencies, severities and costs generally would increase under these revisions. Even the U.S. Department of Labor conceded that costs would rise between 15% and 60%.

For the post-2000 years, the CMCRB believes that Pending claims will be awarded at a higher rate than previously observed, so Pending claims are assumed to have an Award Ratio of 30%. Similarly, the CMCRB also believes that some Denied claims will be reopened and awarded under the more liberal standards of proof, so 5% of Denied claims are assumed to be Reopened with a subsequent Award Ratio of 100%. These assumptions were first included in the April 1, 2009 filing. The derivation and history of these parameters has been discussed in prior filings, so a brief discussion is provided below.

For the years 1989 to 1999 as of August 2000, the following claim statuses were noted: 122 Awarded, 121 Pending, 447 Denied and 690 Reported.

The claim statuses for 121 Pending claims were updated as of August 2007. The following updated claim statuses were noted: 22 Awarded, 21 Pending, 76 Denied and 2 "Other".

This data implies an Award Ratio of 22.45% which is equal to (22) divided by (22+76). This ratio serves as an estimate of the percentage of Pending claims that will be ultimately Awarded.

The claim statuses for the 447 Denied claims were also updated as of August 2007. The following updated claim statuses were noted: 6 Awarded, 12 Pending and 429 Denied.

This data implies an Award Ratio for Denied Claims of about 2% which is equal to (8.7) divided by (447). The numerator of 8.7 is equal to (6) plus (12) x (22.45%). This ratio serves as an estimate of the percentage of Denied claims that will be ultimately Awarded.

The IBNR Award Ratio that is shown on each page is the ratio of the Total Ultimate Awarded Claims (Col. 8) and the Total Reported Claims (Col. 1) from the Grand Total data on page 13.

## Exhibit IX – Individual Claim Detail for SOD and FOD Claim Severities

A. These pages display the Individual Claim Detail for State and FOD Excess claim severities separately for the Four Major Classes and for the Other Classes combined. The Individual Claim Details come from the CMCRB's Occupational Disease Severity Model ("Model"). Benefit amounts are accumulated over the lifetime of the miner (and spouse, if applicable) with mortality factors included in the calculation. For SOD and FOD

Excess, this Model evaluates claims both on a Permanent Total basis and on a Permanent Partial basis.

To estimate the value of each claim, each claim is assumed to occur during the midpoint of the proposed filing period. This assumption requires that the historical wage amount recorded for each claim be adjusted to the midpoint of the proposed filing period. Details of these adjustments are presented in Exhibit VII-H.

These pages first display claim values (or projected benefits) for a "Base" scenario (i.e., before the impact of Act 57) for SOD (including Medical) and FOD Excess. These values are associated with the Awarded and Pending claims reported to the CMCRB for exposure years 1990 through 2018. For the Base Scenario, all claims are calculated with lifetime SOD Indemnity (Benefit) payments (i.e., Permanent Total basis) except for the Commuted or Compromised claims.

These pages also display claim values for an "All Permanent Partial" scenario. Values for the All Permanent Partial scenario are calculated because the implementation of American Medical Association (AMA) Guidelines to evaluate the percentage of disability was expected to reduce the portion of claims evaluated as Permanent Total. For this scenario, all claims other than Commuted, Compromised, or Widow Only were calculated with only 630 weeks of SOD Indemnity (Benefit) payments.

The 630-week duration was calculated as follows:

The AMA Guidelines do not apply prior to the expiration of an initial 104-week benefit period. With timely filing for review, timely occurrence of the hearing and timely issuance of a decision, a <u>floor</u> of 604 weeks exists (104 + 500). The actual period will be longer than this 604-week floor. It is estimated that the anticipated average benefit period for claims reviewed under the AMA Guidelines will exceed the floor by one-half of a year, or 26 weeks. Therefore, the All Permanent Partial Scenario was based upon 630 weeks (104 +26 +500).

These pages display Social Security Offsets/Onsets. These Offsets/Onsets are based on the Social Security Formulas – Historic Primary Insurance Amounts (PIA) and Projections in Exhibit VII-J. The decrease (or Offset) to SOD benefits is 50% of the miner's Social Security retirement benefit, limited to the amount of the SOD benefit. This adjustment results in a decrease to SOD Indemnity benefits and an increase to FOD Excess Indemnity benefits.

These pages also display Pension Offsets/Onsets. These Offsets/Onsets are based on the Pension Offset percentage calculated in Exhibit VII-G Page 2. The full amount of the pension is available as an Offset to the SOD benefit, with the constraint that the SOD benefit minus the Social Security and Private Pension Offsets must not be less than zero. This adjustment results in a decrease to SOD Indemnity benefits and an increase to FOD Excess Indemnity benefits.

Four (4) provisions in Act 57 of 1996 were expected to reduce SOD benefits (and Traumatic benefits). These provisions involved the:

- 1. AMA Guidelines
- 2. Social Security Offsets/Onsets
- 3. Pension Offsets/Onsets and
- 4. Wage Level Offsets/Onsets.

Consequently, the CMCRB has annually submitted estimates for SOD Loss Costs that reflect the anticipated savings from these provisions. Correspondingly, but not in the same proportions, the CMCRB has submitted estimates for FOD Excess Loss Costs that reflect the anticipated additional costs from these provisions that would be shifted to Federal secondary claims since the cross-over point for Federal benefits would occur quicker or earlier than under the old law.

This filing continues the process of phasing out some of the SOD Offsets and some of the FOD Excess Onsets.

- AMA Guidelines While the CMCRB continues to calculate both a Permanent Total (or Base) scenario and an All Permanent Partial scenario, the Base scenario now receives 100% of the weight in the averaging of these two values. The weight given to the All Permanent Partial scenario has been reduced to zero since no such claims have emerged.
- Social Security and Pension Offsets/Onsets The CMCRB continues to use the
  original assumptions for these provisions due to the absence of actual claim data
  in this regard.
- Wage Level Offsets/Onsets The CMCRB annually updates the offset/onset amount in Exhibit VII-G Page 1. The SOD Offset percentage decreased from 1.2290% to 1.1866%.
- B. These pages display the Individual Claim Detail for Federal Basic OD claim severities separately for the Four Major Classes and for the Other Classes. The Individual Claim Details come from the CMCRB's Occupational Disease Severity Model ("Model"). Benefit amounts are accumulated over the lifetime of the miner (and spouse, if applicable) with mortality factors included in the calculation.

These pages (Exhibit IX-A and IX-B) provide a source for the claim severity figures in Exhibits VII and VIII. No changes, except updates, were made in any of the formula used to run the Model. For example, the input parameters used to calculate the Medical Severities on these pages were updated to reflect inflation considerations.

#### Exhibit X – Payrolls – Developments and Adjustments

A. Developed and Adjusted Payrolls are displayed by year, by coverage and by classification. Payrolls occasionally differ by coverage for the reasons addressed in

- Exhibit X-C. Page 1 provides Traumatic Payrolls; Page 2 provides SOD Payrolls; and Page 3 provides FOD Payrolls.
- B. Developed Traumatic Payrolls are extended at current loss cost level to calculate on-level Loss Cost Premium by year for eleven (11) years and by classification on Page 1. Rating values from the CMCRB's latest loss cost filing are shown on Pages 2 and 3.
- C. Developed Traumatic Payrolls are first adjusted to obtain Developed SOD Payroll by showing the amount of Anthracite Underground payroll that is assigned to the Bituminous Underground classification related to the UAE decision on Pages 4 and 5. Otherwise, Developed Traumatic Payrolls are equal to Developed SOD Payrolls.

Then, Developed SOD Payrolls are adjusted to obtain Developed FOD Payroll on Pages 1 through 3. The Federal Exempt Reported Payroll is the Traumatic Payroll for insureds that purchase State Act coverage (Traumatic and SOD), but that select to self-insure for FOD coverage. Also, Developed SOD Payrolls are further adjusted to obtain Developed FOD Payrolls for Executive Officers, Sole proprietors and Partners of Partnerships that elected not to purchase State Act coverage. These individuals can elect not to purchase State Act coverage, but cannot elect not to purchase FOD coverage.

- D. Reported Payrolls by classification are projected to Developed Payrolls using the Development Factors calculated in Exhibit X-E. Developed Payrolls are the CMCRB's estimated ultimate or final payroll level for each Accident Year.
- E. Payroll Development Factors are calculated first from report-to-report level and then from report-to-ultimate level.
- F. SOD and FOD Claim Frequencies from the CMCRB's latest loss cost filing are shown.
- G. Reported Average Weekly Wages for Coal Classes are indexed to the Statewide Average Weekly Wage (SAWW). These indexes are used in the calculation of SOD and FOD Claim Frequencies.

#### Exhibit XI – Special Assessments

In Section A, the fiscal year budget for the Office of Small Business Advocate is compared to the insurance carrier paid losses to produce the Small Business Advocate Assessment Factor or Ratio. This amount is loaded into the CMCRB's Manual Loss Costs.

In Section B, the fiscal year budgets for the listed Funds are compared to the Employer Assessment Premium Base to produce the Employer Assessment Factor. This amount is not loaded into the CMCRB's Manual Loss Costs, but is treated as a separate calculation in the determination of policy premium. This amount is the estimated provision for Pennsylvania's Administrative Fund, Subsequent Injury Fund, Supersedeas Fund and Uninsured Employer Guaranty Fund.

## Exhibit XII – Catastrophe Provision

The CMCRB caps or limits losses for individual Traumatic claims at \$1,250,000 in the Traumatic Loss Cost Indications by classification in Exhibit V-B which uses data for the five (5) most recent Accident Years. In this exhibit, the CMCRB calculates provisions for these large losses using data for the twenty (20) most recent Accident Years. The CMCRB expresses these considerations as loss costs which provide for potential future catastrophic loss events. These amounts, which vary by classification, are loaded into the CMCRB's Manual Loss Costs.

- A. The overall catastrophe provision (or Loss Costs) is distributed among the ten (10) Traumatic classifications based on the Developed Payrolls for the most recent Accident Year and the noted Hazard Weights.
- B. The Number of Excess Claims and Excess Loss Dollars in excess of \$1,250,000 are summarized by Accident Year. The current Accident Year Developed Payroll is compared to the Average Catastrophe Excess Loss over the twenty (20) most recent Accident Years to develop the Catastrophe Loss Cost.
- C. Information for the individual Traumatic losses that exceed the \$1,250,000 threshold is shown including the trend factor used to bring losses to the current loss level. Beginning with the April 1, 2018 filing, all losses in the twenty (20) most recent Accident Years are reported on a Post-Act 44 basis and do not require an Act 44 adjustment. The Statewide Average Weekly Wage Index is used as the Trend factor and is applied to both Indemnity and Medical Losses. The use of this index seems appropriate since Indemnity losses are a direct function of wages and Act 44 restricts changes in Medical costs to the change in the Statewide Average Weekly Wage.
- D. Trend Factors (or factors that are used to bring historical Indemnity and Medical losses to current loss level) for Indemnity and Medical losses are calculated based on the Statewide Average Weekly Wage (SAWW) that is published for Pennsylvania. The CMCRB projects the SAWW to the average accident date associated with the requested effective date for this filing based on the review of the yearly changes that are shown.
- E. The Number of Excess Claims and Excess Loss Dollars in excess of \$1,250,000 are summarized by classification (or Class Code).

## Exhibit XIII – Traumatic Experience Rating Plan

The CMCRB proposes to maintain the major features of the Traumatic Experience Rating Plan and to update the associated plan parameters. The major features are:

- The primary limiting value for basic ratable losses remains at \$50,000 per occurrence.
- The secondary limiting value for excess ratable losses remains at \$150,000 per occurrence.
- The eligibility requirement of at least \$300,000 in modified Traumatic payroll during the three (3) year experience is maintained.

- The shape of the Credibility Table is also unchanged.
- A. Page 1 shows the derivation of the Expected Loss Costs (or Values) based on the Unloaded Loss Costs and the Split of Total Losses by Layer. The proposed total limits loss costs were unloaded for loss-based assessments, the Small Business Advocate, Merit Rating Off-Balance, Safety Committee Off-Balance, Catastrophe Loading, loss development and trend to calculate the expected losses by layer. These unloaded, detrended, undeveloped loss costs were then divided into layers based on the six-year average of actual losses by layer at the same maturity (report) level.

Page 2 shows the calculations for the weighted loss development and loss trend factors. These factors are used on page 1.

Page 3 shows the basic and ratable excess credibility amounts by size of risk (i.e., modified 3-year payroll) based on the proposed overall Unloaded Loss Cost. The primary layer table tracks the shape of the PCRB table converted from expected losses to Payroll using the proposed overall Unloaded Loss Cost underlying this filing. The table for the excess ratable layer was also updated based on the proposed overall Unloaded Loss Cost underlying this filing.

- B. These pages provide comparisons of the current Experience Mods (as calculated and released by the CMCRB with last year's filing) to the proposed Experience Mods, by file number. In total, there are few new experience-rated accounts. Some accounts which were experience rated last year were not eligible this year. The Experience Rating Plan's Off-Balance factor was calculated to be 1.0003. Each indicated mod was adjusted by this off-balance factor so that the Plan is revenue neutral.
- C. The CMCRB caps indicated Experience Mod increases and decreases at 0.35. This page shows files that are affected by this capping.

Additionally, the CMCRB plans to continue the capping of Experience Mods for small accounts (which is part of the currently approved Experience Rating Plan) as follows:

Less than \$499,999 in payroll max mod 1.20 \$500,000 to \$749,999 in payroll max mod 1.30 \$750,000 to \$999,999 in payroll max mod 1.40

Exhibit XIV – Merit Rating and Safety Committee Credit Off-Balance Calculations

A. Page 1 shows the calculation of the Merit Rating Plan Off-Balance Factor, which is equal to the ratio of proposed Unloaded Loss Cost Premium to the proposed Unloaded Loss Cost Premium after Merit Rating Credits and Surcharges. Page 2 shows Developed Payroll for the most recent Accident Year in total and separately for Experience Rated, Merit Rated and Manual Rates risks. For Merit Rated risks, the Payroll is also shown separately for Merit Credit and Merit Surcharged risks.

B. This page shows the calculation of the Safety Committee Credit Off-Balance Factor. This factor is equal to the ratio of proposed Unloaded Loss Cost Premium to proposed Unloaded Loss Cost Premium after Safety Committee credits.

## **Disclosures**

The CMCRB offers the following disclosures (i.e., potential constraints or limitations) concerning the conclusions in this report specifically related to potential risk and/or uncertainty. The Proposed Loss Costs do not include any provision for the risk and/or uncertainty that may be inherent in these reserve estimates or in these loss cost projections. While the CMCRB understands that the applicable Statements of Principles promulgated by the Casualty Actuarial Society advocate for a provision for uncertainty, the CMCRB believes that its approach is acceptable and reasonable, because individual carriers can decide whether or not to include a provision for uncertainty in the determination of their loss cost multipliers.

Although this report complies with applicable Actuarial Standards of Practice and Statements of Principles, users of this report should be aware that the projections in this report involve estimates that are inherently uncertain. This uncertainty stems from a dependence of the amount of future claims payments on facts and circumstances that are unknown at this time. Some of these unknown facts and circumstances may involve, but may not necessarily be limited to, the following:

- Changes in claim reserving practices or settlement practices,
- Changes in the legal, regulatory, economic or social environments,
- Statistical variation from the projected expected values especially given the fairly modest size of the CMCRB's database and
- Future emergence of new classes of losses or types of losses that are not sufficiently represented in the historical database.

The CMCRB believes that one potential source of instability in Traumatic Claim Frequencies (and possibly Severities) that deserves specific mention involves an actual or perceived change in the coal mining work force demographics. The CMCRB has heard reports from member companies that a shift in the Pennsylvania coal mining work force began during 2016 and has continued into 2019 where older, more experienced miners are being replaced by younger, less experienced miners. The CMCRB has also read reports (e.g., see MSHA's News Release posted June 6, 2017) about this same shift and the potential impact on losses related to it. While the CMCRB does not have access to data to corroborate this change or estimate its effect, the CMCRB understands that MSHA's opinion is that less experienced miners – both at a mine and at a specific occupation – suffer injuries at a higher rate than more experienced miners. The CMCRB has not directly or indirectly taken this reported demographic shift or its effect into consideration in the subject filing. However, the CMCRB believes that this phenomenon potentially adds to the uncertainty associated with the subject filing, especially concerning the lack of information that is available to predict when the demographic shift will stop or achieve a new demographic equilibrium.

The CMCRB believes that another potential source of instability involves the influx of new and large entities into the CMCRB's database. On Exhibit X-A, the influx of these new entities is associated with the significant changes in payroll between 2013 and 2018:

- Traumatic and SOD payroll increased by about \$123 million or 41% from 2013 to 2014. However, FOD payroll increased by about \$28 million or 10% from 2013 to 2014.
- Traumatic and SOD payroll decreased by about \$74 million or 17% from 2014 to 2015. FOD payroll decreased by about \$60 million or 19% from 2014 to 2015.
- Traumatic and SOD payroll decreased by about \$96 million or 27% from 2015 to 2016. FOD payroll decreased by about \$44 million or 17% from 2015 to 2016.
- The entities that produced the large Traumatic and SOD increases from 2013 to 2014 remained self-insured for FOD exposures through the first half of 2016, but began insuring their FOD exposures at that time.
- For 2017, Traumatic and SOD payroll increased by about \$35 million or 14%. FOD payroll increased by about \$68 million or 31%. However, for 2017, Traumatic and SOD payroll is once again almost the same as FOD payroll.
- For 2018, payrolls increased by 5-6% with Traumatic and SOD again almost the same as FOD.

Additionally, the CMCRB believes that the conclusions in this report are consistent with the combined experience of all carriers in the CMCRB's database. However, the CMCRB acknowledges that the experience of the CMCRB's individual members companies may be different (or may be perceived to be different) from the aggregate experience of the CMCRB's total membership.

Please direct any questions concerning this report to:

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## Actuarial Report – Appendix A Consideration of House Bill 1846 of 2014 (HB 1846) Regarding the CMCRB's April 1, 2020 Loss Cost Filing

The CMCRB collects workers compensation medical loss information that is aggregated at the claim level. This information does not include medical bill line item detail. Consequently, the CMCRB maintains its prior assertion that the evaluation of HB 1846 that was prepared by the Pennsylvania Compensation Rating Bureau ("PCRB") is the best analysis of this law that is available to the CMCRB at this time.

For the April 1, 2016 Loss Cost Filing, the CMCRB used the savings approximation of 1.32% (or a factor of 0.9868) that was promulgated by the PCRB in Exhibit 34 to PCRB Proposal C-366 – April 1, 2016. The CMCRB uniformly applied this factor to each of the five Accident Years used in the Traumatic Loss Cost indications (i.e., 2010 – 2014). The PCRB's exhibit is available online at <a href="http://www.pcrb.com/pcrb/filings/c366/Exhibit%2034.pdf">http://www.pcrb.com/pcrb/filings/c366/Exhibit%2034.pdf</a>.

The CMCRB notes that this savings approximation consists of two components:

- 1) A medical savings adjustment factor of approximately 0.9908 and
- 2) An annual medical severity trend deflection factor of approximately 0.9881.

For the April 1, 2017, April 1, 2018, and April 1, 2019 Loss Cost Filings, the CMCRB utilized these two components to derive unique adjustment factors for each of the five Accident Years used in those filings to prepare Traumatic Loss Cost indications. For the April 1, 2020 Loss Cost Filing, the CMCRB proposes a similar approach and provides this appendix to describe this process and the attached exhibits in support of these calculations.

Appendix A-1 identifies the components of the data set that the PCRB utilized to calculate the medical savings adjustment factor of approximately 0.9908. The PCRB identifies this data set as the "2013 Dataset". Based on PCRB's description, the 2013 Dataset seems to be a reasonably close approximation of Calendar Year 2013 Paid Losses. So, this medical savings adjustment factor represents the factor that would be applied to *actual* Calendar Year 2013 Paid Losses on a pre-HB 1846 basis to produce *expected* Calendar Year 2013 Paid Losses on a post-HB 1846 basis.

Appendix A-2 shows the application of the annual medical severity trend deflection adjustment to the medical savings adjustment factor. The annual medical severity trend deflection factor is applied on a calendar year basis. This triangle represents the factors that would be applied to the actual Accident Year Incremental Paid Losses on a pre-HB 1846 basis to produce expected Accident Year Incremental Paid Losses on a post-HB 1846 basis. The CMCRB used the following estimations in these calculations:

- 1) Effective date Since HB 1846 became effective December 26, 2014, the CMCRB adopts January 1, 2015 as the estimated effective date to ease the estimation process.
- 2) Transition While HB 1846 was effective December 26, 2014 (estimated as January 1, 2015), the CMCRB believes that a one-year transition to benefits on a post-HB 1846

- basis is reasonable. Consequently, the CMCRB selects the factor for Calendar Year 2015 Paid Losses judgmentally as the average of the Calendar Year 2014 factor and unity.
- 3) Post-transition The CMCRB believes that Calendar Year 2016 Paid Losses and Calendar Year 2017 Paid and Outstanding Losses are fully on a post-law basis and selects unity as the adjustment factor to these losses.

Appendix A-3 displays the derivation of the CMCRB's Paid Loss Distribution. The CMCRB notes that the Selected Distribution is very close to the Actual Distribution through 8<sup>th</sup> report level. Beyond 8<sup>th</sup> report level, the CMCRB notes that it favored accelerating the distribution for simplicity in subsequent calculations. This distribution is necessary to prepare Accident Year Incremental Paid and Outstanding Losses.

Appendix A-4 distributes the Selected Paid Loss Distribution into an Accident Year loss development triangle. The Outstanding Loss Distribution is also displayed.

- Row 1 represents the portion of ultimate losses that are expected to be paid for each Accident Year based on current report levels.
- Row 2 shows the portion of ultimate losses that are expected to be outstanding for each Accident Year based on current report levels.
- Row 3 shows the sum of Rows 1 and 2 which sums to unity or 100% for each Accident Year.

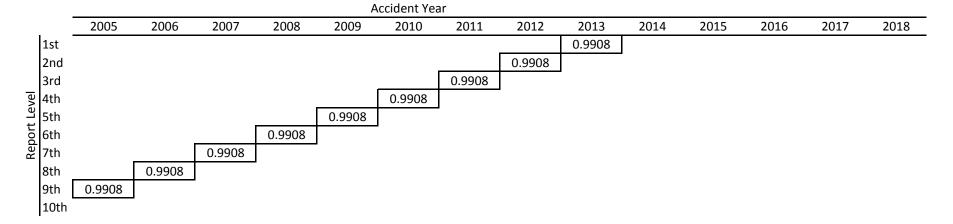
Appendix A-5 shows the derivation of the Accident Year specific adjustment factors for HB 1846. The triangle on this page is the cell-by-cell product of the HB 1846 Medical Savings Adjustment Factors with Medical Trend Deflection Adjustment (A-2) and the Estimated Incremental Paid Losses (A-4). In other words, this triangle represents the Incremental Paid Losses on a post-HB 1846 basis.

- Row 1 represents the portion of ultimate losses that are expected to be paid for each Accident Year based on current report levels after Paid Losses are adjusted to reflect HB 1846 savings.
- Row 2 shows the portion of ultimate losses that are expected to be outstanding for each Accident Year based on current report levels.
- Row 3 shows the HB 1846 savings factor to be applied to outstanding losses.
- Row 4 reflects outstanding losses adjusted to reflect HB 1846 savings.
- Row 5 displays the factor to adjust Ultimate Accident Year losses to reflect HB 1846 savings. This row is also re-displayed in the column to the right.

#### Attachments

1) Appendix A-1 through Appendix A-5

## Components of the "2013 Dataset" with Medical Savings Adjustment Factor



The PCRB estimated HB 1846 cost savings from Medical Data Call records with dates of service during CY 2013 with payments made through the 1st Q of CY 2014 and referred to these records as the 2013 Dataset. These boxes represent a reasonably close approximation of the data components of the 2013 Dataset filled with the savings estimate of 0.92% or a factor of 0.9908.

Source: PCRB Proposal C-366 - April 1, 2016 Loss Cost Filing - Exhibit 34 http://www.pcrb.com/pcrb/filings/c366/Exhibit%2034.pdf

### Medical Savings Adjustment Factor with Medical Trend Deflection Adjustment

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1st	1.0000	1.0000	1.0000	1.0000	0.9984	0.9965	0.9946	0.9927	0.9908	0.9889	0.9945	1.0000	1.0000	1.0000
2nd	1.0000	1.0000	1.0000	0.9984	0.9965	0.9946	0.9927	0.9908	0.9889	0.9945	1.0000	1.0000	1.0000	
3rd	1.0000	1.0000	0.9984	0.9965	0.9946	0.9927	0.9908	0.9889	0.9945	1.0000	1.0000	1.0000		
₹ 4th	1.0000	0.9984	0.9965	0.9946	0.9927	0.9908	0.9889	0.9945	1.0000	1.0000	1.0000			
5th	0.9984	0.9965	0.9946	0.9927	0.9908	0.9889	0.9945	1.0000	1.0000	1.0000				
5 6th	0.9965	0.9946	0.9927	0.9908	0.9889	0.9945	1.0000	1.0000	1.0000					
7th	0.9946	0.9927	0.9908	0.9889	0.9945	1.0000	1.0000	1.0000						
8th	0.9927	0.9908	0.9889	0.9945	1.0000	1.0000	1.0000							
9th	0.9908	0.9889	0.9945	1.0000	1.0000	1.0000								
10th	0.9889	0.9945	1.0000	1.0000	1.0000									

The PCRB also estimated that the effects of HB 1846 would reduce the growth rate of medical costs at an annual rate of 0.19% or a factor of 0.9981.

	CY 2013	Annual	CY	2005-8	1.0000	-5	1.0000 = 0.9908 times (0.9981 ^ -5). Capped at unity.
	(Base)	Change	CY	2009	0.9984	-4	0.9984 = 0.9908 times (0.9981 ^ -4)
	Adjt.	in Adjt.	CY	2010	0.9965	-3	0.9965 = 0.9908 times (0.9981 ^ -3)
I	0.9908	0.9981	CY	2011	0.9946	-2	0.9946 = 0.9908 times (0.9981 ^ -2)
			CY	2012	0.9927	-1	0.9927 = 0.9908 times (0.9981 ^ -1)
			CY	2013	0.9908	0	0.9908 = 0.9908 times (0.9981 ^ 0)
			CY	2014	0.9889	1	0.9889 = 0.9908 times (0.9981 ^ 1)
			CY	2015	0.9945	*	
			CY	2016	1.0000	**	
			CY	2017	1.0000	**	
			CY	2018	1.0000	**	
		Outst	anding at:	2018	1.0000	**	

- \* The Adjustment for Calendar Year 2015 Paid Losses was judgmentally selected to be the average of the last data point and unity to transition to benefits on a post-HB 1846 basis.
- \*\* The Adjustments for Calendar Years 2016, 2017 and 2018 Paid Losses and Outstanding Losses were selected to be unity since data is expected to be reported on a post-HB 1846 basis because HB 1846 became effective in December 2014.

Source: PCRB Proposal C-366 - April 1, 2016 Loss Cost Filing - Exhibit 34

http://www.pcrb.com/pcrb/filings/c366/Exhibit%2034.pdf

100.00%

89.20% 89.20% 11.00%

### Derivation of Traumatic Medical Incremental Paid Loss Distribution

Report 1	ic Medical Re 2009 1,934,714	<u>2010</u> 2,751,976	osses as of 0 2011 3,211,934	<u>4-30-2019 fro</u> <u>2012</u> 3,607,221	om Exhibit VI 2013 2,405,205	<u>-E:</u> <u>2014</u> 3,932,999	2015 2,543,986	<u>2016</u> 2,330,259	2017 3,485,615	2018 3,818,681				
2	2,474,907	3,388,757	4,428,864	4,556,072	3,576,391	5,142,203	3,295,697	3,381,307	4,550,558	3,010,001				
3	2,729,947	3,681,854	4,791,312	4,910,148	3,732,065	5,725,513	3,579,670	3,601,813	, ,					
4	2,838,307	4,050,370	4,980,927	5,036,044	3,783,913	5,806,872	3,711,776							
5	2,888,987	4,182,550	5,232,645	5,071,629	3,837,635	5,825,434								
6 7	2,911,117	4,258,152	5,334,986	5,142,197	3,895,586									
8	2,933,165 2,960,275	4,295,252 4,307,948	5,480,157 5,547,144	5,165,531										
9	2,900,273	4,313,892	3,347,144											
10	3,030,936	1,313,032												
	, ,													
Traumat	ic Medical Re	ported Incuri	ed Losses as	of 04-30-201	8 from Exhib	it VI-B-4:								
	3,137,264	4,314,642	6,232,068	5,458,952	4,082,497	5,883,352	3,824,391	4,190,581	5,882,211	5,562,604				
	, ,	, ,			, ,	, ,	, ,	, ,	, ,	, ,				
Traumat	ic Medical Inc	urred Loss D	evelopment	Factors from	Exhibit V-C-2	<u>:</u>								
	1.0831	1.0883	1.0937	1.0993	1.1051	1.1111	1.1173	1.1238	1.1076	1.1792				
<u>Ultimate</u>	Traumatic M	edical Losses	s = Medical In	curred Losse	s times Medi	cal Incurred L	oss Developi	ment Factors	•					
	2 207 074							nene i detors.	_					
	3,397,971	4,695,625	6,816,013	6,001,026	4,511,567	6,536,992		4,709,375	_'	6,559,423				
	3,397,971	4,695,625	6,816,013	6,001,026	4,511,567	6,536,992			_'	6,559,423				
Percent	Paid = Trauma	atic Medical I	Reported Paid	, ,	led by Ultima	, ,	4,272,992 Medical Loss	4,709,375	_'	6,559,423		Average	Selected	Selected
Report	Paid = Trauma 2009	atic Medical I 2010	Reported Paid	d Losses divic	led by Ultima 2013	te Traumatic 2014	4,272,992  Medical Loss 2015	4,709,375 ses: 2016	6,515,137 2017	2018	<u>Average</u>	Ex Hi/Lo	Incremental	<u>Cumulative</u>
Report 1	Paid = Trauma 2009 56.94%	atic Medical I 2010 58.61%	Reported Paid 2011 47.12%	d <u>Losses divid</u> 2012 60.11%	led by Ultima 2013 53.31%	te Traumatic 2014 60.17%	4,272,992  Medical Loss 2015 59.54%	4,709,375 ses: 2016 49.48%	6,515,137 <u>2017</u> 53.50%	, ,	55.70%	Ex Hi/Lo 56.21%	Incremental 56.00%	Cumulative 56.00%
Report 1 2	Paid = Trauma 2009 56.94% 72.83%	atic Medical I 2010 58.61% 72.17%	Reported Pain 2011 47.12% 64.98%	d Losses divid 2012 60.11% 75.92%	led by Ultima 2013 53.31% 79.27%	te Traumatic 2014 60.17% 78.66%	4,272,992  Medical Loss 2015 59.54% 77.13%	4,709,375 <u>ses:</u> 2016 49.48% 71.80%	6,515,137 2017	2018	55.70% 73.62%	Ex Hi/Lo 56.21% 74.05%	Incremental 56.00% 18.00%	<u>Cumulative</u> 56.00% 74.00%
Report 1 2 3	Paid = Trauma 2009 56.94% 72.83% 80.34%	2010 58.61% 72.17% 78.41%	Reported Pair 2011 47.12% 64.98% 70.29%	d Losses divid 2012 60.11% 75.92% 81.82%	led by Ultima 2013 53.31% 79.27% 82.72%	te Traumatic 2014 60.17% 78.66% 87.59%	4,272,992  Medical Loss 2015 59.54% 77.13% 83.77%	4,709,375 ses: 2016 49.48%	6,515,137 <u>2017</u> 53.50%	2018	55.70% 73.62% 80.18%	Ex Hi/Lo 56.21% 74.05% 80.59%	Incremental 56.00% 18.00% 6.50%	Cumulative 56.00% 74.00% 80.50%
Report	Paid = Trauma 2009 56.94% 72.83% 80.34% 83.53%	2010 58.61% 72.17% 78.41% 86.26%	Reported Paid 2011 47.12% 64.98% 70.29% 73.08%	d Losses divided 2012 60.11% 75.92% 81.82% 83.92%	2013 53.31% 79.27% 82.72% 83.87%	te Traumatic 2014 60.17% 78.66% 87.59% 88.83%	4,272,992  Medical Loss 2015 59.54% 77.13%	4,709,375 <u>ses:</u> 2016 49.48% 71.80%	6,515,137 <u>2017</u> 53.50%	2018	55.70% 73.62% 80.18% 83.77%	Ex Hi/Lo 56.21% 74.05% 80.59% 84.89%	Incremental 56.00% 18.00% 6.50% 3.50%	Cumulative 56.00% 74.00% 80.50% 84.00%
Report 1 2 3 4 5	Paid = Trauma 2009 56.94% 72.83% 80.34% 83.53% 85.02%	2010 58.61% 72.17% 78.41% 86.26% 89.07%	Reported Paid 2011 47.12% 64.98% 70.29% 73.08% 76.77%	d Losses divid 2012 60.11% 75.92% 81.82% 83.92% 84.51%	2013 53.31% 79.27% 82.72% 83.87% 85.06%	te Traumatic 2014 60.17% 78.66% 87.59%	4,272,992  Medical Loss 2015 59.54% 77.13% 83.77%	4,709,375 <u>ses:</u> 2016 49.48% 71.80%	6,515,137 <u>2017</u> 53.50%	2018	55.70% 73.62% 80.18% 83.77% 84.92%	Ex Hi/Lo 56.21% 74.05% 80.59% 84.89% 85.92%	Incremental 56.00% 18.00% 6.50% 3.50% 1.00%	Cumulative 56.00% 74.00% 80.50% 84.00% 85.00%
Report  1 2 3 4 5 6	Paid = Trauma 2009 56.94% 72.83% 80.34% 83.53% 85.02% 85.67%	2010 58.61% 72.17% 78.41% 86.26% 89.07% 90.68%	Reported Paid 2011 47.12% 64.98% 70.29% 73.08% 76.77% 78.27%	d Losses divided 2012 60.11% 75.92% 81.82% 83.92% 84.51% 85.69%	2013 53.31% 79.27% 82.72% 83.87%	te Traumatic 2014 60.17% 78.66% 87.59% 88.83%	4,272,992  Medical Loss 2015 59.54% 77.13% 83.77%	4,709,375 <u>ses:</u> 2016 49.48% 71.80%	6,515,137 <u>2017</u> 53.50%	2018	55.70% 73.62% 80.18% 83.77% 84.92% 85.33%	Ex Hi/Lo 56.21% 74.05% 80.59% 84.89% 85.92% 85.90%	Incremental 56.00% 18.00% 6.50% 3.50% 1.00% 0.50%	Cumulative 56.00% 74.00% 80.50% 84.00% 85.00% 85.50%
Report  1  2  3  4  5  6  7	Paid = Trauma 2009 56.94% 72.83% 80.34% 83.53% 85.02% 85.67% 86.32%	2010 58.61% 72.17% 78.41% 86.26% 89.07% 90.68% 91.47%	2011 47.12% 64.98% 70.29% 73.08% 76.77% 78.27% 80.40%	d Losses divid 2012 60.11% 75.92% 81.82% 83.92% 84.51%	2013 53.31% 79.27% 82.72% 83.87% 85.06%	te Traumatic 2014 60.17% 78.66% 87.59% 88.83%	4,272,992  Medical Loss 2015 59.54% 77.13% 83.77%	4,709,375 <u>ses:</u> 2016 49.48% 71.80%	6,515,137 <u>2017</u> 53.50%	2018	55.70% 73.62% 80.18% 83.77% 84.92% 85.33% 86.07%	Ex Hi/Lo 56.21% 74.05% 80.59% 84.89% 85.92% 85.90% 86.20%	Incremental 56.00% 18.00% 6.50% 3.50% 1.00% 0.50%	Cumulative 56.00% 74.00% 80.50% 84.00% 85.00% 85.50% 86.00%
Report  1 2 3 4 5 6	Paid = Trauma 2009 56.94% 72.83% 80.34% 83.53% 85.02% 85.67%	2010 58.61% 72.17% 78.41% 86.26% 89.07% 90.68%	Reported Paid 2011 47.12% 64.98% 70.29% 73.08% 76.77% 78.27%	d Losses divided 2012 60.11% 75.92% 81.82% 83.92% 84.51% 85.69%	2013 53.31% 79.27% 82.72% 83.87% 85.06%	te Traumatic 2014 60.17% 78.66% 87.59% 88.83%	4,272,992  Medical Loss 2015 59.54% 77.13% 83.77%	4,709,375 <u>ses:</u> 2016 49.48% 71.80%	6,515,137 <u>2017</u> 53.50%	2018	55.70% 73.62% 80.18% 83.77% 84.92% 85.33%	Ex Hi/Lo 56.21% 74.05% 80.59% 84.89% 85.92% 85.90%	Incremental 56.00% 18.00% 6.50% 3.50% 1.00% 0.50%	Cumulative 56.00% 74.00% 80.50% 84.00% 85.00% 85.50%

Notes: The selected distribution is a very close approximation to the actual distribution through 8th report level.

The importance of the selected distribution diminishes beyond 8th report and was accelerated for simplicity.

10

89.20%

### Incremental Paid and Outstanding Medical Losses per Report Level

					А	ccident Yea	ır					Selected Incremental	Cumulative	Outstanding
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Paid Losses	Paid Losses	Losses
1st	0.5600	0.5600	0.5600	0.5600	0.5600	0.5600	0.5600	0.5600	0.5600	0.5600	0.5600	56.00%	56.00%	44.00%
2nd	0.1800	0.1800	0.1800	0.1800	0.1800	0.1800	0.1800	0.1800	0.1800	0.1800		18.00%	74.00%	26.00%
3rd	0.0650	0.0650	0.0650	0.0650	0.0650	0.0650	0.0650	0.0650	0.0650			6.50%	80.50%	19.50%
र्षु 4th	0.0350	0.0350	0.0350	0.0350	0.0350	0.0350	0.0350	0.0350				3.50%	84.00%	16.00%
의   5th	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100					1.00%	85.00%	15.00%
6th	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050						0.50%	85.50%	14.50%
₹ 7th	0.0050	0.0050	0.0050	0.0050	0.0050							0.50%	86.00%	14.00%
8th	0.0100	0.0100	0.0100	0.0100								1.00%	87.00%	13.00%
9th	0.0200	0.0200	0.0200									2.00%	89.00%	11.00%
10th	0.1100	0.1100										11.00%	100.00%	0.00%
1)	1.0000	1.0000	0.8900	0.8700	0.8600	0.8550	0.8500	0.8400	0.8050	0.7400	0.5600			
2)	0.0000	0.0000	0.1100	0.1300	0.1400	0.1450	0.1500	0.1600	0.1950	0.2600	0.4400			
3)	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000			

### Notes:

- 1) The anticipated Cumulative Paid Losses which equal the sums of the columns above.
- 2) The remaining anticipated Outstanding Losses for each Accident Year.
- 3) The sum of rows 1 and 2.

Selected

2018

1.0000

### Combination - Incremental Paid Losses & Adjustment/Deflection Factors

													Selected		
						Α	ccident Yea	ır					Incremental	Cumulative	Outstanding
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Paid Losses	Paid Losses	Losses
	1st	0.5600	0.5591	0.5580	0.5570	0.5559	0.5548	0.5538	0.5569	0.5600	0.5600	0.5600	56.00%	56.00%	44.00%
	2nd	0.1797	0.1794	0.1790	0.1787	0.1783	0.1780	0.1790	0.1800	0.1800	0.1800		18.00%	74.00%	26.00%
	3rd	0.0648	0.0646	0.0645	0.0644	0.0643	0.0646	0.0650	0.0650	0.0650			6.50%	80.50%	19.50%
٩	4th	0.0348	0.0347	0.0347	0.0346	0.0348	0.0350	0.0350	0.0350				3.50%	84.00%	16.00%
<u> </u>	5th	0.0099	0.0099	0.0099	0.0099	0.0100	0.0100	0.0100					1.00%	85.00%	15.00%
Š	4th 5th 6th 7th	0.0050	0.0049	0.0050	0.0050	0.0050	0.0050						0.50%	85.50%	14.50%
ă	7th	0.0049	0.0050	0.0050	0.0050	0.0050							0.50%	86.00%	14.00%
	8th	0.0099	0.0100	0.0100	0.0100								1.00%	87.00%	13.00%
	9th	0.0200	0.0200	0.0200									2.00%	89.00%	11.00%
	10th	0.1100	0.1100										11.00%	100.00%	0.00%
	1)	0.9991	0.9977	0.8861	0.8646	0.8533	0.8475	0.8428	0.8369	0.8050	0.7400	0.5600		Accident	HB 1846
	2)	0.0000	0.0000	0.1100	0.1300	0.1400	0.1450	0.1500	0.1600	0.1950	0.2600	0.4400		<u>Year</u>	Adjt. Factor
	3)	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		2008	0.9991
	4)	0.0000	0.0000	0.1100	0.1300	0.1400	0.1450	0.1500	0.1600	0.1950	0.2600	0.4400		2009	0.9977
	5)	0.9991	0.9977	0.9961	0.9946	0.9933	0.9925	0.9928	0.9969	1.0000	1.0000	1.0000		2010	0.9961
														2011	0.9946
	Note	s:												2012	0.9933
		1) The anti	icipated Cu	mulative A	djusted/De <sup>-</sup>	flected Paid	l Losses wh	ich equal t	he sums of	the columr	is above.			2013	0.9925
		2) The rem	naining anti	cipated Ou	tstanding L	osses for ea	ach Accider	it Year.						2014	0.9928
		3) The sele	cted Adjus	tment facto	or for Calen	dar Year 20	18 Outstar	iding Losse	S.					2015	0.9969
		4) The pro	duct of row	s 2 and 3.										2016	1.0000
		5) The sum	n of rows 1	and 4.										2017	1.0000

The triangle above is the cell-by-cell product of the following two triangles: Medical Savings Adjustment Factor with Medical Trend Deflection Adjustment (Appendix A-2) Incremental Paid and Outstanding Medical Losses per Report Level (Appendix A-4)

# Actuarial Report – Appendix B Consideration of Protz v. WCAB (Derry Area School District) and House Bill 1840 (HB 1840 or Act 111 of 2018) Regarding the CMCRB's April 1, 2020 Loss Cost Filing

The Pennsylvania Supreme Court issued a decision in Protz v. WCAB (Derry Area School District) (the Protz Decision) dated June 20, 2017. In the Protz Decision, the Court ruled that Section 306(a.2) of the Pennsylvania Workers' Compensation Act (the Act) was an unconstitutional delegation of legislative authority. The CMCRB understands that this ruling meant that Section 306(a.2) had to be stricken and that impairment rating evaluations were removed from the Act. The CMCRB notes that this ruling eliminated a cost containment provision that was enacted in the Pennsylvania Workers' Compensation system over 20 years ago.

The CMCRB included a provision (a load to Traumatic Indemnity Losses of 13.37% or 1.1337) in its April 1, 2018 Loss Cost Filing in response to the Protz Decision. Because of data limitations and constraints, this provision was based on PCRB Filing C-369, dated August 15, 2017.

Subsequent to the CMCRB proposing and implementing its April 1, 2018 Loss Cost Filing, the Pennsylvania Legislature passed HB 1840 that was signed by Governor Wolf on October 24, 2018. The CMCRB understands that this legislation re-established impairment rating evaluations in the Act, amending the impairment threshold from 50% to 35%, and that this legislation also increased the burial benefit in the Act from \$3,000 to \$7,000. More generally, the CMCRB understands that HB 1840 intends to stabilize the PA W.C. system by fixing the portion of the Act that was struck down in the Protz decision while making the other changes described above.

The CMCRB notes that the PCRB prepared estimations concerning the provisions of HB 1840 and that these estimations were included in the PCRB's Filing C-373 proposed to be effective January 1, 2019. As it did with the Protz Decision, the CMCRB adopts the PCRB's estimations concerning both of these provisions in HB 1840:

- 1) Re-establishment of Impairment Rating Evaluations and Revision to Impairment Threshold from 50% to 35%: The PCRB estimated the impact on Indemnity Benefits (or Indemnity Losses) to be an increase of 1.56% or 1.0156 to move from the pre-Protz Level (i.e., Impairment Rating Threshold of 50%) to the post-HB 1840 Level (i.e., Impairment Rating Threshold of 35%).
- 2) Increase to Burial Benefit: The PCRB estimated the impact on Indemnity Benefits to be an increase of 0.032% or 1.00032 concerning this benefit increase.

Overall, the CMCRB adopts an HB 1840 adjustment factor of 1.59% or 1.0159 to reflect all of the estimable changes in HB 1840. This HB 1840 adjustment factor of 1.0159 is the product of the two component parts listed above or 1.0156 times 1.0003.

For the April 1, 2019 Loss Cost Filing, the CMCRB uniformly applied the HB 1840 adjustment factor of 1.0159 to Traumatic Indemnity Losses for each of the five accident years (i.e., 2013 through 2017) included in the Traumatic Loss Cost indications. The CMCRB did not find any claims that were included in the data with the April 1, 2019 Loss Cost Filing that appeared to be affected by the Protz Decision. In other words, the CMCRB believed that all of the Traumatic loss data included with the April 1, 2019 Loss Cost Filing continued to be reported on a pre-Protz Decision level.

### **Application to current data (i.e., to Traumatic Indemnity Losses)**

To begin, the CMCRB believes that the PCRB's HB 1840 adjustment factor of 1.0159 continues to be the best available estimate of the anticipated increase in Traumatic Indemnity Losses from a pre-HB 1840 level to a post-HB 1840 level (or more precisely a pre-Protz Decision level to a post-HB 1840 level).

The CMCRB proposes an approach to adjust for this law change that is similar to the approach used for HB 1846 of 2014 and provided in Appendix A. This appendix describes this process and the attached exhibits support these calculations.

Appendix B-1 shows the derivation of the HB 1840 adjustment factor to Indemnity Paid Losses for the 10 most recent Accident Years and Report Levels. For Calendar Years before 2018, the adjustment factor is 1.0159. For Calendar Year 2018, the adjustment factor is 1.0129, derived from the weights shown on this appendix. The CMCRB assumed that Paid Losses would immediately reflect the new law level.

Appendix B-2 shows the derivation of the HB 1840 adjustment factor to Indemnity Outstanding Losses for Calendar Year 2018. The CMCRB assumed that 50% of Outstanding Losses for Calendar Year 2018 reflected the new law level since Calendar Year 2018 reports were to be valued as of April 30, 2019.

Appendix B-3 displays the derivation of the CMCRB's Indemnity Paid Loss Distribution. The CMCRB notes that the Selected Distribution is very close to the Actual Distribution through 9<sup>th</sup> report level. Beyond 9<sup>th</sup> report level, the CMCRB notes that it favored accelerating the distribution for simplicity in subsequent calculations. This distribution is necessary to prepare Accident Year Incremental Paid and Outstanding Losses.

Appendix B-4 distributes the Selected Paid Loss Distribution into an Accident Year loss development triangle. The Outstanding Loss Distribution is also displayed.

- Row 1 represents the portion of ultimate losses that are expected to be paid for each Accident Year based on current report levels.
- Row 2 shows the portion of ultimate losses that are expected to be outstanding for each Accident Year based on current report levels.
- Row 3 shows the sum of Rows 1 and 2 which sums to unity or 100% for each Accident Year.

Appendix B-5 shows the derivation of the Accident Year specific adjustment factors for HB 1840. The triangle on this page is the cell-by-cell product of the HB 1840 Adjustment Factors (B-1) and the Estimated Incremental Paid Losses (B-4). In other words, this triangle represents the Incremental Paid Losses on a post-HB 1840 basis.

- Row 1 represents the portion of ultimate losses that are expected to be paid for each Accident Year based on current report levels after Paid Losses are adjusted to reflect HB 1840 savings.
- Row 2 shows the portion of ultimate losses that are expected to be outstanding for each Accident Year based on current report levels.
- Row 3 shows the HB 1840 savings factor to be applied to outstanding losses.
- Row 4 reflects outstanding losses adjusted to reflect HB 1840 savings.
- Row 5 displays the factor to adjust Ultimate Accident Year losses to reflect HB 1840 savings. This row is also re-displayed in the column to the right.

The CMCRB notes that it did not find any claims that were included in the data with the April 1, 2020 Loss Cost Filing that appeared to be affected by the Protz Decision or HB 1840 with the exception of the Funeral Benefits reported on two claims. However, the CMCRB believes that these exceptions are within the HB 1840 adjustment factor assumptions used in this appendix.

### **Application by Type of Coverage**

The CMCRB files Loss Costs for three "types" of coverages:

- 1. Traumatic Pennsylvania Workers' Compensation Act coverage,
- 2. State Occupational Disease (SOD) Pennsylvania Occupational Disease Act coverage and
- 3. Federal Occupational Disease (FOD) Federal Mine Safety and Health Act coverage.

The CMCRB generally understands that the settlement of SOD claims has not relied upon the Impairment Rating Evaluation (IRE) process and that adjustments for the Protz Decision or HB 1840 for SOD coverage are not necessary. Similarly, the CMCRB knows that the settlement of FOD claims does not rely upon provisions in the Pennsylvania Workers' Compensation Act and that adjustments for the Protz Decision or HB 1840 for FOD coverage are not necessary.

The CMCRB also understands that the settlement of Traumatic claims has relied upon the IRE process and that adjustments for the Protz Decision and subsequently HB 1840 for Traumatic coverage are necessary. Consequently, the CMCRB's proposal includes the application of the adjustment factors from Appendix B-5 for Traumatic Indemnity coverage only.

While HB 1840 is expected to directly impact Indemnity Benefits and Losses, this legislation is not expected to directly impact Medical Benefits and Losses. However, as with any significant law change, the CMCRB notes the potential for changes in claiming activity and behavior. These changes have the potential to increase Medical Benefits and Losses going forward, but the CMCRB is not aware of a reliable means to estimate this potential increase at this time. Consequently, the CMCRB adopts a HB 1840 adjustment factor of 1.0000 or 0.0% to be applied to all Traumatic Medical Losses. The CMCRB notes that the PCRB's Filing C-373 proposed the same approach to Medical Losses.

### **Retrospective**

The CMCRB notes that the above mentioned estimates were prepared exclusively on a prospective basis. The CMCRB analysis and estimates do not include any provisions for the potential for retroactive changes in cost for claims that are currently open or for claims that were previously closed to reopen.

### **Uncertainty**

The CMCRB notes that actuarial estimates in general involve some degree of uncertainty. The CMCRB believes that this is especially true of the estimates and adjustments mentioned above, since these estimations needed to be prepared before a reliable amount of actual experience under HB 1840 was available.

### Attachments

1) Appendix B-1 through Appendix B-5

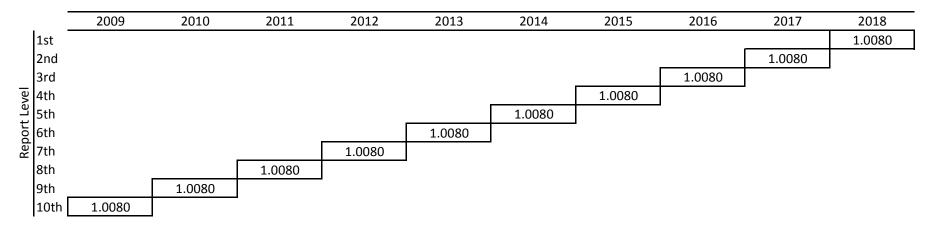
### Impact of House Bill 1840 on Indemnity Paid Losses

		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	1st	1.0159	1.0159	1.0159	1.0159	1.0159	1.0159	1.0159	1.0159	1.0159	1.0129
	2nd	1.0159	1.0159	1.0159	1.0159	1.0159	1.0159	1.0159	1.0159	1.0129	
	3rd	1.0159	1.0159	1.0159	1.0159	1.0159	1.0159	1.0159	1.0129		
vel	4th 5th	1.0159	1.0159	1.0159	1.0159	1.0159	1.0159	1.0129			
t Le	5th	1.0159	1.0159	1.0159	1.0159	1.0159	1.0129				
20r	6th 7th	1.0159	1.0159	1.0159	1.0159	1.0129		_			
Re	7th	1.0159	1.0159	1.0159	1.0129		_				
	8th	1.0159	1.0159	1.0129							
	9th _	1.0159	1.0129								
	10th	1.0129									

The CMCRB assumes that Paid Losses will immediately reflect the new law level. The weights below were judgmentally selected with consideration given to the date that House Bill 1840 of 2018 was signed by Governor Wolf of October 24, 2018.

HB 1840 Indemnity Paid Loss Adjustment Factors:	Combined	Adjustment	Weight	Adjustment	Weight
HB 1840 Adjustment Factor for Calendar Years prior to 2018	1.0159	1.0159	100.0%	1.0000	0.0%
HB 1840 Adjustment Factor for Calendar Year 2018	1.0129	1.0159	81.4%	1.0000	18.6%
HB 1840 Adjustment Factor for Calendar Years after 2018	1.0000	1.0159	0.0%	1.0000	100.0%

### Impact of House Bill 1840 on Indemnity Outstanding Losses



The CMCRB assumes that 50% of Outstanding Case Reserve Losses fully reflected the new law level at first report.

HB 1840 Indemnity Outstanding Loss Adjustment Factors:	Combined	Adjustment	Weight	Adjustment	Weight
HB 1840 Adjustment Factor for Calendar Years prior to 2018	1.0159	1.0159	100.0%	1.0000	0.0%
HB 1840 Adjustment Factor for Calendar Year 2018	1.0080	1.0159	50.0%	1.0000	50.0%
HB 1840 Adjustment Factor for Calendar Years after 2018	1.0000	1.0000	0.0%	1.0000	100.0%

96.81%

96.81%

3.00%

100.00%

#### Derivation of Traumatic Indemnity Incremental Paid Loss Distribution

Traumatic Indemnity Reported Paid Losses as of 04-30-2019 from Exhibit VI-E: 2017 2018 2014 2015 2016 Report 2009 2010 2011 2012 1,490,981 1 1,524,765 1,786,240 2,050,254 1,899,710 4,015,185 2,666,351 2,517,576 2,656,641 2,186,695 2 2,864,778 3,435,863 3,977,654 5,436,521 4,482,404 7,405,014 6,101,619 5,232,352 5,222,275 3 4,380,163 4,339,688 6,103,091 7,383,427 6,081,014 10,801,053 7,572,770 6,951,711 4,536,641 6,078,298 7,555,055 8,102,574 6,502,458 11,716,598 9,243,177 4 7,923,836 8,850,340 5 4,912,891 6,374,543 6,652,885 12,157,797 6 5,041,132 6,690,310 8,262,491 9,105,598 7,003,338 7 5,082,350 7,001,167 8,313,908 9,298,463 8 5,123,568 7,146,676 8,347,645 9 5,164,786 7,433,505 10 5,206,003 Traumatic Indemnity Reported Incurred Losses as of 04-30-2019 from Exhibit VI-A-4: 5,295,724 7,433,505 8,518,112 7,652,267 9,796,893 12,255,326 11,602,180 8,661,045 8,255,335 5,566,332 Traumatic Indemnity Incurred Loss Development Factors from Exhibit V-C-1: 1.0155 1.0171 1.0188 1.0205 1.0223 1.0242 1.0509 1.0947 1.2728 2.0500 \_Ultimate Traumatic Indemnity Losses = Indemnity Incurred Losses times Indemnity Incurred Loss Development Factors: 7,822,913 12,551,905 5.377.808 7,560,618 8,678,253 9,997,729 12.192.731 9,481,246 10,507,390 11,410,981 Percent Paid = Traumatic Indemnity Reported Paid Losses divided by Ultimate Traumatic Indemnity Losses: Average Selected Selected 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 **Average** Ex Hi/Lo <u>Incremental</u> Cumulative Report 1 27.72% 20.17% 20.58% 20.51% 24.28% 31.99% 26.55% 25.28% 19.16% 23.81% 23.37% 24.00% 24.00% 21.87% 2 53.27% 45.44% 45.83% 54.38% 57.30% 59.00% 50.04% 55.19% 49.70% 52.24% 52.24% 28.00% 52.00% 3 81.45% 57.40% 70.33% 73.85% 77.73% 86.05% 62.11% 73.32% 72.78% 73.13% 21.00% 73.00% 83.59% 10.00% 4 84.36% 80.39% 87.06% 81.04% 83.12% 93.35% 75.81% 83.19% 83.00% 5 91.35% 84.31% 91.31% 88.52% 85.04% 96.86% 89.57% 89.06% 6.00% 89.00% 6 93.74% 88.49% 95.21% 91.08% 89.52% 91.61% 91.45% 3.00% 92.00% 7 94.51% 92.60% 95.80% 93.01% 93.98% 93.76% 2.00% 94.00% 8 95.27% 94.53% 96.19% 95.33% 95.27% 1.00% 95.00% 9 96.04% 98.32% 97.18% 97.18% 2.00% 97.00%

Notes: The selected distribution is a very close approximation to the actual distribution through 9th report level.

10

96.81%

The importance of the selected distribution diminishes beyond 9th report and was accelerated for simplicity.

### Incremental Paid and Outstanding Indemnity Losses per Report Level

	200	9 201	10	2011	2012	2013	2014	2015	2016	2017	2018	Selected Incremental Paid Losses	Cumulative Paid Losses	Outstanding Losses
1s			_	0.2400	0.2400	0.2400	0.2400	0.2400	0.2400	0.2400	0.2400	24.00%	24.00%	76.00%
2n	-	-		0.2800	0.2800	0.2800	0.2800	0.2800	0.2800	0.2800		28.00%	52.00%	48.00%
3rd		0.21	.00 (	0.2100	0.2100	0.2100	0.2100	0.2100	0.2100			21.00%	73.00%	27.00%
Report Level 2th	n 0.100	0.10	000 (	0.1000	0.1000	0.1000	0.1000	0.1000				10.00%	83.00%	17.00%
실 5tl	n 0.060	0.06	500 (	0.0600	0.0600	0.0600	0.0600					6.00%	89.00%	11.00%
6tl	n 0.030	0.03	300 (	0.0300	0.0300	0.0300						3.00%	92.00%	8.00%
æ 7tl	n 0.020	0.02	200 (	0.0200	0.0200							2.00%	94.00%	6.00%
8tl		0.01	.00 (	0.0100								1.00%	95.00%	5.00%
9tl	n 0.020	0.02	200									2.00%	97.00%	3.00%
10	th 0.030	00										3.00%	100.00%	0.00%
1	1.000	0.97	'00 C	0.9500	0.9400	0.9200	0.8900	0.8300	0.7300	0.5200	0.2400			
2	0.000	0.03	300	0.0500	0.0600	0.0800	0.1100	0.1700	0.2700	0.4800	0.7600			
3	1.000	00 1.00	000 1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000			

### Notes:

- 1) The anticipated Cumulative Paid Losses which equal the sums of the columns above.
- 2) The remaining anticipated Outstanding Losses for each Accident Year.
- 3) The sum of rows 1 and 2.

### Combination - Incremental Paid Losses times Adjustment Factors

												Incremental	Cumulative	Outstanding
		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Paid Losses	Paid Losses	Losses
	1st	0.2438	0.2438	0.2438	0.2438	0.2438	0.2438	0.2438	0.2438	0.2438	0.2431	24.00%	24.00%	76.00%
	2nd	0.2845	0.2845	0.2845	0.2845	0.2845	0.2845	0.2845	0.2845	0.2836		28.00%	52.00%	48.00%
	3rd	0.2133	0.2133	0.2133	0.2133	0.2133	0.2133	0.2133	0.2127			21.00%	73.00%	27.00%
ve	4th 5th	0.1016	0.1016	0.1016	0.1016	0.1016	0.1016	0.1013				10.00%	83.00%	17.00%
t Le	5th	0.0610	0.0610	0.0610	0.0610	0.0610	0.0608					6.00%	89.00%	11.00%
oc.	6th 7th	0.0305	0.0305	0.0305	0.0305	0.0304						3.00%	92.00%	8.00%
Rep	7th	0.0203	0.0203	0.0203	0.0203							2.00%	94.00%	6.00%
	8th	0.0102	0.0102	0.0101								1.00%	95.00%	5.00%
	9th	0.0203	0.0203									2.00%	97.00%	3.00%
	10th	0.0304										3.00%	100.00%	0.00%
	1)	1.0158	0.9854	0.9651	0.9549	0.9345	0.9040	0.8429	0.7410	0.5274	0.2431		Accident	Adjustment
	2)	0.0000	0.0300	0.0500	0.0600	0.0800	0.1100	0.1700	0.2700	0.4800	0.7600		<u>Year</u>	<u>Factor</u>
	3)	1.0080	1.0080	1.0080	1.0080	1.0080	1.0080	1.0080	1.0080	1.0080	1.0080		2009	1.0158
	4)	0.0000	0.0302	0.0504	0.0605	0.0806	0.1109	0.1714	0.2721	0.4838	0.7660		2010	1.0156
	5)	1.0158	1.0156	1.0155	1.0154	1.0151	1.0149	1.0143	1.0131	1.0112	1.0091		2011	1.0155
													2012	1.0154
	Notes	:											2013	1.0151
		1) The anti	cipated Cui	mulative Ac	djusted Paic	l Losses wh	ich equal tl	ne sums of	the columr	is above.			2014	1.0149

- 2) The remaining anticipated Outstanding Losses for each Accident Year.
- 3) The selected Adjustment factor for Calendar Year 2018 Outstanding Losses.
- 4) The product of rows 2 and 3.
- 5) The sum of rows 1 and 4.

The triangle above is the cell-by-cell product of the following two triangles:

Impact of House Bill 1840 on Indemnity Paid Losses (Appendix B-1)

Incremental Paid and Outstanding Indemnity Losses per Report Level (Appendix B-4)

94.00%	6.00%
95.00%	5.00%
97.00%	3.00%
100.00%	0.00%
Accident	Adjustment
<u>Year</u>	<u>Factor</u>
2009	1.0158
2010	1.0156
2011	1.0155
2012	1.0154
2013	1.0151
2014	1.0149
2015	1.0143
2016	1.0131
2017	1.0112
2018	1.0091

Selected

### Coal Mine Compensation Rating Bureau **Current and Proposed Loss Costs Manual Including Loadings**

		2018 Developed Payroll	(1) Approved Loss Cost Manual	(2) Proposed Loss Cost Manual	(3) Percent Change
Underground Anthra					
	Traumatic (1010)	\$183,346	\$21.59	\$20.67	-4.3%
	State O.D. (1011)	183,346	10.30	12.88	25.0%
	*Federal Basic/Ex (0160)	183,346	10.02	9.06	-9.6%
	Total	XX	41.91	42.61	1.7%
Underground Bitumi	nous:				
•	Traumatic (1001)	\$179,699,685	\$6.87	\$6.96	1.3%
	State O.D. (1002)	179,699,685	0.50	0.58	16.0%
	*Federal Basic/Ex (0158)	179,746,573	0.58	0.59	1.7%
	Total	xx	7.95	8.13	2.3%
Surface Anthracite:					
	Traumatic (1012)	\$19,677,526	\$10.28	\$8.01	-22.1%
	State O.D. (1016)	19,677,526	1.36	1.06	-22.1%
	*Federal Basic/Ex (0153)	18,332,737	2.13	1.72	-19.2%
	Total	×x	13.77	10.79	-21.6%
Surface Bituminous:					
	Traumatic (1014)	\$35,266,431	\$2.09	\$1.85	-11.5%
	State O.D. (1013)	35,266,431	0.20	0.25	25.0%
	*Federal Basic/Ex (0156)	36,110,426	0.89	0.82	-7.9%
	Total	xx	3.18	2.92	-8.2%
Four Standard Classi	fications:				
	Traumatic	\$234,826,988	\$6.45	\$6.29	-2.5%
	State O.D.	234,826,988	0.53	0.58	9.4%
	*Federal Basic/Ex	234,373,082	0.76	0.72	-5.3%
	Total	xx	7.74	7.59	-1.9%

\*Federal Basic and Excess are after the Federal Administrative / Law Change

**Sources:** Payroll from Exhibit X-A

Column (1) Loss Costs (Approved 4/1/2019) - Exhibit X-B-2 Column (2) Proposed - Exhibit I-B, pages 1 and 2 Column (3) Traumatic Column (2) / Column (1) OD Exhibit III and IV-A

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### Coal Mine Compensation Rating Bureau Current and Proposed Loss Costs Manual Including Loadings

		2018 Developed Payroll	(1) Approved Loss Cost Manual	(2) Proposed Loss Cost Manual	(3) Percent Change
Coke:					
CORE.	Traumatic (1469) State O.D. (1017) *Federal Basic/Ex (0154)	\$4,456,795 4,456,795 4,456,795	\$3.57 0.08 0.10	\$3.83 0.09 0.10	7.3% 12.5% <u>0.0%</u>
	Total	XX	3.75	4.02	7.2%
Auger:					
	Traumatic (1015) State O.D. (1019) *Federal Basic/Ex (0157)	\$560,126 560,126 560,126	\$11.21 0.18 0.43	\$9.00 0.18 0.44	-19.7% 0.0% 2.3%
	Total	XX	11.82	9.62	-18.6%
Co-Gen Anthracite:					
	Traumatic (1021) State O.D. (1022) *Federal Basic/Ex (0181)	\$11,591,488 11,591,488 10,018,416	\$4.86 0.27 0.38	\$6.09 0.24 0.37	25.3% -11.1% <i>-</i> 2.6%
	Total	XX	5.51	6.70	21.6%
Co-Gen Bituminous				4	
	Traumatic (1023) State O.D. (1024) *Federal Basic/Ex (0182)	\$11,996,610 11,996,610 11,996,610	\$1.37 0.25 <u>0.31</u>	\$1.37 0.24 0.29	0.0% -4.0% -6.5%
	Total	XX	1.93	1.90	-1.6%
Prep Plant Anthracit	e:				
	Traumatic (1025) State O.D. (1026) *Federal Basic/Ex (0183)	\$9,643,085 9,643,085 6,888,320	\$4.53 2.47 0.90	\$4.24 2.57 0.88	-6.4% 4.0% -2.2%
	Total	XX	7.90	7.69	-2.7%
Prep Plant Bitumino	JS:				
·	Traumatic (1027) State O.D. (1028) *Federal Basic/Ex (0184)	\$32,053,553 32,053,553 32,053,553	\$2.81 0.13 0.33	\$2.74 0.16 0.31	-2.5% 23.1% -6.1%
	Total	XX	3.27	3.21	-1.8%
Other Classification	s:				
	Traumatic State O.D.	\$70,301,657 70,301,657	\$3.25 0.49	\$3.38 0.51	4.0% 4.1%
	*Federal Basic/Ex	65,973,820	0.38	0.36	-5.3%
	Total	XX	4.12	4.25	3.2%
Grand Total:		4007		4	
	Traumatic State O.D.	\$305,128,645 305,128,645	\$5.71 0.52	\$5.62 0.56	-1.6% 7.7%
	*Federal Basic/Ex	300,346,902	0.68	0.64	-5.9%
	Total	XX	6.91	6.82	-1.3%

<sup>\*</sup>Federal Basic and Excess are after the Federal Administrative / Law Change

Sources: Payroll from Exhibit X-A

Column (1) Loss Costs (Approved 4/1/2019) - Exhibit X-B-2 Column (2) Proposed - Exhibit I-B, pages 1 and 2 Column (3) Traumatic Column (2) / Column (1) OD Exhibit III and IV-A

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### Coal Mine Compensation Rating Bureau **Current and Proposed Loss Costs Unloaded Manual**

		2018 Developed Payroll	(1) Approved Unloaded Manual	(2) Indicated Unloaded Manual	(3) Proposed Unloaded Manual	(4) Percent Change
	. 11 9					
Underground A	nthracite: Traumatic (1010)	\$183,346	\$21.08	\$20.12	\$20.12	-4.6%
	State O.D. (1011)	183,346	10.30	\$20.12 15.62	\$20.12 12.88	-4.6% 25.0%
	*Federal Basic/Ex (0160)	183,346	10.02	9.06	9.06	-9.6%
	Total	XX	41.40	44.80	42.06	1.6%
	Total	XX	41.40	44.80	42.06	1.6%
Underground Bi	tuminous:					
	Traumatic (1001)	\$179,699,685	\$6.59	\$6.65	\$6.65	0.9%
	State O.D. (1002)	179,699,685	0.50	0.58	0.58	16.0%
	*Federal Basic/Ex (0158)	179,746,573	0.58	0.59	0.59	1.7%
	Total	XX	7.67	7.82	7.82	2.0%
Surface Anthra	cite:					
	Traumatic (1012)	\$19,677,526	\$10.10	\$7.84	\$7.84	-22.4%
	State O.D. (1016)	19,677,526	1.36	1.06	1.06	-22.1%
	*Federal Basic/Ex (0153)	18,332,737	2.13	1.72	1.72	-19.2%
	Total	xx	13.59	10.62	10.62	-21.9%
Surface Bitumin	ous:					
	Traumatic (1014)	\$35,266,431	\$2.04	\$1.79	\$1.79	-12.3%
	State O.D. (1013)	35,266,431	0.20	0.30	0.25	25.0%
	*Federal Basic/Ex (0156)	36,110,426	0.89	0.82	0.82	-7.9%
	Total	xx	3.13	2.91	2.86	-8.6%
Four Standard C	Classifications:					
	Traumatic	\$234,826,988	\$6.21	\$6.03	\$6.03	-2.9%
	State O.D.	234,826,988	0.53	0.59	0.58	9.4%
	*Federal Basic/Ex	234,373,082	0.76	0.72	0.72	-5.3%
	Total	xx	7.50	7.34	7.33	-2.3%

Sources: Payroll from Exhibit X-A

Column (1) Exhibit X-B Page 2

Column (2) Indicated Loss Cost - Exh. II, col(3) (Traumatic); Exh. III, col(5) (State O.D.); Exh. IV-A, col(5) (Federal O.D. After Adm/Law) Column (3) Proposed Loss Cost - Exh. II, col(4) (Traumatic); Exh. III, col(8) (State O.D.); Exh. IV-A, col(7) (Federal O.D. After Adm/Law)

Column (4) Exhibit II, III or IV-A

<sup>\*</sup>Federal Basic and Excess are after the Federal Administrative / Law Change

### Coal Mine Compensation Rating Bureau **Current and Proposed Loss Costs Unloaded Manual**

		2018 Developed Payroll	(1) Approved Unloaded Manual	(2) Indicated Unloaded Manual	(3) Proposed Unloaded Manual	(4) Percent Change
	•	, , , , , , , , , , , , , , , , , , , ,				
Coke:	Traumatic (1469) State O.D. (1017) *Federal Basic/Ex (0154)	\$4,456,795 4,456,795 4,456,795	\$3.49 0.08 0.10	\$3.73 0.09 0.10	\$3.73 0.09 0.10	6.9% 12.5% 0.0%
	Total	xx	3.67	3.92	3.92	6.8%
Auger:						
	Traumatic (1015)	\$560,126	\$10.96	\$8.76	\$8.76	-20.1%
	State O.D. (1019)	560,126	0.18	0.18	0.18	0.0% 2.3%
	<u>*Federal Basic/Ex (0157)</u> Total	560,126 xx	0.43 11.57	9.38	9.38	-18.9%
Co Con Anthon						
Co-Gen Anthro	Traumatic (1021)	\$11,591,488	\$4.76	\$7.56	\$5.95	25.0%
	State O.D. (1022)	11,591,488	0.27	۰.24 0.24	93.73 0.24	-11.1%
	*Federal Basic/Ex (0181)	10,018,416	0.38	0.37	0.37	-2.6%
	Total	xx	5.41	8.17	6.56	21.3%
Co-Gen Bitumi	nous:					
	Traumatic (1023)	\$11,996,610	\$1.33	\$1.32	\$1.32	-0.8%
	State O.D. (1024)	11,996,610	0.25	0.24	0.24	-4.0%
	<u>*Federal Basic/Ex (0182)</u> Total	11,996,610	0.31 1.89	0.29 1.85	0.29 1.85	-6.5% -2.1%
	Total	**	1.07	1.03	1.63	-2.1/0
Prep Plant Anth		<b>#0.740.00</b> F	<b>C</b> 4.44	C414	<b>*</b>	4.00
	Traumatic (1025) State O.D. (1026)	\$9,643,085 9,643,085	\$4.44 2.47	\$4.14 2.57	\$4.14 2.57	-6.8% 4.0%
	*Federal Basic/Ex (0183)	6,888,320	0.90	0.88	0.88	-2.2%
	Total	xx	7.81	7.59	7.59	-2.8%
Prep Plant Bitu	minous:					
	Traumatic (1027)	\$32,053,553	\$2.75	\$2.66	\$2.66	-3.3%
	State O.D. (1028)	32,053,553	0.13	0.16	0.16	23.1%
	<u>*Federal Basic/Ex (0184)</u> Total	32,053,553 xx	<u>0.33</u> 3.21	0.31 3.13	0.31 3.13	-6.1 <u>%</u> -2.5%
Other Classific		\$70.201.757	¢2.10	¢2 F/	¢2.00	2 507
	Traumatic State O.D.	\$70,301,657 70,301,657	\$3.18 0.49	\$3.56 0.51	\$3.29 0.51	3.5% 4.1%
	*Federal Basic/Ex	65,973,820	0.38	0.36	0.36	-5.3%
	Total	xx	4.05	4.43	4.16	2.7%
Grand Total:						
	Traumatic	\$305,128,645	\$5.51	\$5.46	\$5.40	-2.0%
	State O.D.	305,128,645	0.52	0.57	0.56	7.7%
	*Federal Basic/Ex	300,346,902	0.68	0.64	0.64	-5.9%
	Total	XX	6.71	6.67	6.60	-1.6%

<sup>\*</sup>Federal Basic and Excess are after the Federal Administrative / Law Change

Sources: Payroll from Exhibit X-A

Column (1) Exhibit X-B Page 2

Column (2) Indicated Loss Cost - Exh. II, col(3) (Traumatic); Exh. III, col(5) (State O.D.); Exh. IV-A, col(5) (Federal O.D. After Adm/Law) Column (3) Proposed Loss Cost - Exh. II, col(4) (Traumatic); Exh. III, col(8) (State O.D.); Exh. IV-A, col(7) (Federal O.D. After Adm/Law)

Column (4) Exhibit II, III or IV-A

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Effective Date - April 01, 2020 1,323,760,743.453000

### Coal Mine Compensation Rating Bureau Current and Proposed Loss Costs Unloaded Manual

### Calculation of Proposed Unloaded Loss Costs

**Underground Anthracite** 

Traumatic (1010) Indicated Loss Cost.

State O.D. (1011) Indicated unloaded loss cost limited to 25.0%(Exhibit III).

\*Federal O.D. (0160) Basic/Ex Indicated Loss Cost.

**Underground Bituminous** 

Traumatic (1001) Indicated Loss Cost.
State O.D. (1002) Indicated Loss Cost.
\*Federal O.D. (0158) Basic/Ex Indicated Loss Cost.

Surface Anthracite

Traumatic (1012)

State O.D. (1016)

\*Federal O.D. (0153)

Basic/Ex

Indicated Loss Cost.

Indicated Loss Cost.

Indicated Loss Cost.

**Surface Bituminous** 

Traumatic (1014) Indicated Loss Cost.

State O.D. (1013) Indicated unloaded loss cost limited to 25.0%(Exhibit III).

\*Federal O.D. (0156) Basic/Ex Indicated Loss Cost.

Coke

Traumatic (1469) Indicated Loss Cost.
State O.D. (1017) Indicated Loss Cost.
\*Federal O.D. (0154) Basic/Ex Indicated Loss Cost.

Auger

Traumatic (1015)

State O.D. (1019)

\*Federal O.D. (0157)

Basic/Ex

Indicated Loss Cost.

Indicated Loss Cost.

Indicated Loss Cost.

Co-Gen Anthracite

Traumatic (1021) Indicated unloaded loss cost limited to 25.0%(Exhibit II).

State O.D. (1022) Indicated Loss Cost. \*Federal O.D. (0181) Basic/Ex Indicated Loss Cost.

Co-Gen Bituminous

Traumatic (1023) Indicated Loss Cost.
State O.D. (1024) Indicated Loss Cost.
\*Federal O.D. (0182) Basic/Ex Indicated Loss Cost.

**Prep Plant Anthracite** 

Traumatic (1025) Indicated Loss Cost.
State O.D. (1026) Indicated Loss Cost.
\*Federal O.D. (0183) Basic/Ex Indicated Loss Cost.

**Prep Plant Bituminous** 

Traumatic (1027) Indicated Loss Cost.
State O.D. (1028) Indicated Loss Cost.
\*Federal O.D. (0184) Basic/Ex Indicated Loss Cost.

### Coal Mine Compensation Rating Bureau Manual Loss Cost Loaded (after Capping) For Catastrophe, Off-Balances, and Assessment Proposed to Become Effective 4-1-2020

	2018	(1) Proposed Loss Cost	(2) Catastrophe	(3) Loss Cost Including	(4) Loss Cost Including	(5) Loss Cost Inc. Off-Balance <sup>(a)</sup>
	Developed Payroll	Before Loading	Loss Cost	Catastrophe	Off-Balance <sup>(a)</sup>	& Assessment <sup>(b)</sup>
Underground Anthracite:						
Traumatic (1010)	\$183,346	\$20.12	\$0.19	\$20.31	\$20.67	\$20.67
State O.D. (1011)	183,346	12.88				12.88
*Federal Basic/Ex (0160		9.06				9.06
Total	xx	42.06				42.61
Underground Bituminous:						
Traumatic (1001)	\$179,699,685	\$6.65	\$0.19	\$6.84	\$6.96	\$6.96
State O.D. (1002)	179,699,685	0.58				0.58
*Federal Basic/Ex (0158		0.59				0.59
Total	XX	7.82				8.13
Surface Anthracite:						
Traumatic (1012)	\$19,677,526	\$7.84	\$0.03	\$7.87	\$8.01	\$8.01
State O.D. (1016)	19,677,526	1.06				1.06
*Federal Basic/Ex (0153	18,332,737	1.72				1.72
Total	XX	10.62				10.79
Surface Bituminous:						
Traumatic (1014)	\$35,266,431	\$1.79	\$0.03	\$1.82	\$1.85	\$1.85
State O.D. (1013)	35,266,431	0.25	,	,	,	0.25
*Federal Basic/Ex (0158	36,110,426	0.82				0.82
Total	xx	2.86				2.92
Four Standard Classifications:						
Traumatic	\$234,826,988	\$6.03	\$0.15	\$6.18	\$6.29	\$6.29
State O.D.	234,826,988	0.58	72.10	730	Ŧ0127	0.58
*Federal Basic/Ex	234,373,082	0.72				0.72
Total	XX	7.33				7.59

**Sources:** Payroll from Exhibit X-A

Column (1) Proposed Loss Cost Before Loading - Exhibit II for Traumatic, Exhibit III for State OD, and Exhibit IV for Federal OD.

Column (2) Catastrophe - Exhibit XII-A

Column (3) (1)+(2)

Columns (4)(a) & (5)(a) Off-balances applied to Traumatic only

	Experience Rating	1.0000
Exhibit XIV-A	Merit Rating	1.0002
Exhibit XIV-B	Safety Rating	1.0174
	Combined	1.0176

<sup>\*</sup>Federal Basic and Excess are after the Federal Administrative / Law Change

### Coal Mine Compensation Rating Bureau Manual Loss Cost Loaded (after Capping) For Catastrophe, Off-Balances, and Assessment Proposed to Become Effective 4-1-2020

		2018 Developed Payroll	(1) Proposed Loss Cost Before Loading	(2) Catastrophe Loss Cost	(3) Loss Cost Including Catastrophe	(4) Loss Cost Including Off-Balance <sup>(a)</sup>	(5) Loss Cost Inc. Off-Balance <sup>(a)</sup> & Assessment <sup>(b)</sup>
Coke:							
	Traumatic (1469) State O.D. (1017) *Federal Basic/Ex (0154) Total	\$4,456,795 4,456,795 4,456,795 xx	\$3.73 0.09 0.10 3.92	\$0.03	\$3.76	\$3.83	\$3.83 0.09 0.10 4.02
Auger:	Traumatic (1015) State O.D. (1019) *Federal Basic/Ex (0157) Total	\$560,126 560,126 560,126 xx	\$8.76 0.18 0.44 9.38	\$0.08	\$8.84	\$9.00	\$9.00 0.18 0.44 9.62
Co-Gen Anthra	cite:						
	Traumatic (1021) State O.D. (1022) *Federal Basic/Ex (0181) Total	\$11,591,488 11,591,488 10,018,416 xx	\$5.95 0.24 0.37 6.56	\$0.03	\$5.98	\$6.09	\$6.09 0.24 0.37 6.70
Co-Gen Bitumin	ious:						
	Traumatic (1023) State O.D. (1024) *Federal Basic/Ex (0182) Total	\$11,996,610 11,996,610 11,996,610 xx	\$1.32 0.24 0.29 1.85	\$0.03	\$1.35	\$1.37	\$1.37 0.24 <u>0.29</u> 1.90
Prep Plant Anthr	racito:						
riepridiii Aiiiii	Traumatic (1025) State O.D. (1026) *Federal Basic/Ex (0183) Total	\$9,643,085 9,643,085 6,888,320 xx	\$4.14 2.57 0.88 7.59	\$0.03	\$4.17	\$4.24	\$4.24 2.57 0.88 7.69
Prep Plant Bitum	inous:						
	Traumatic (1027) State O.D. (1028) *Federal Basic/Ex (0184) Total	\$32,053,553 32,053,553 32,053,553 xx	\$2.66 0.16 0.31 3.13	\$0.03	\$2.69	\$2.74	\$2.74 0.16 0.31 3.21
Other Classifica	tions:						
	Traumatic State O.D. *Federal Basic/Ex Total	\$70,301,657 \$70,301,657 65,973,820 xx	\$3.29 0.51 0.36 4.16	\$0.03	\$3.32	\$3.38	\$3.38 0.51 0.36 4.25
Grand Total:	Traumatic State O.D. <u>*Federal Basic/Ex</u> Total	\$305,128,645 305,128,645 300,346,902 xx	\$5.40 0.56 0.64 6.60	\$0.12	\$5.52	\$5.62	\$5.62 0.56 0.64 6.82

<sup>\*</sup>Federal Basic and Excess are after the Federal Administrative / Law Change

Sources: Payroll from Exhibit X-A

Column (1) Proposed Loss Cost Before Loading - Exhibit II for Traumatic, Exhibit III for State OD, and Exhibit IV for Federal OD.

Column (2) Catastrophe - Exhibit XII-A

Column (3) (1)+(2)

Columns (4)(a) & (5)(a) Off-balances applied to Traumatic only

 Exhibit XIV-A
 Experience Rating
 1.0000

 Exhibit XIV-B
 Merit Rating
 1.0002

 Exhibit XIV-B
 Safety Rating
 1.0174

 Combined
 1.0176

# COAL MINE COMPENSATION RATING BUREAU TRAUMATIC LOSS COST INDICATIONS Proposed Unloaded Loss Costs

			(1)	(2) Approved	(3)	(4)	(5)
<u>Classification</u>		<u>Code</u>	2018 Developed Payroll	Unloaded Loss Cost (Eff 4/01/2019)	Indicated Unloaded Loss Cost	Proposed Unloaded Loss Cost	Percent <u>Change</u>
Underground:	Anthracite Bituminous	1010 1001	183,346 179,699,685	21.08 6.59	20.12 6.65	20.12 6.65	-4.6% 0.9%
Surface:	Anthracite Bituminous	1012 1014	19,677,526 35,266,431	10.10 <u>2.04</u>	7.84 1.79	7.84 <u>1.79</u>	-22.4% <u>-12.3%</u>
Four Standard Cla	asses		234,826,988	6.21	6.03	6.03	-2.9%
Other Classes	Coke	1469	4,456,795	3.49	3.73	3.73	6.9%
Offici Classes	Auger	1015	560,126	10.96	8.76	8.76	-20.1%
Co-Gen:	Anthracite	1021	11,591,488	4.76	7.56	5.95	25.0%
CO-Gen.	Bituminous	1021	11,996,610	1.33	1.32	1.32	-0.8%
Prep Plants:	Anthracite	1025	9,643,085	4.44	4.14	4.14	-6.8%
rieprianis.	Bituminous	1023	32,053,553	<u>2.75</u>	2.66	2.66	-3.3%
Other Classes			70,301,657	3.18	3.56	3.29	3.5%
Cirioi Cidaaca			70,001,007	0.10	0.00	0.27	0.0/6
All Classes Combi	ined		305,128,645	5.51	5.46	5.40	-2.0%

Sources: Column (1) Exhibit X-A

Column (2) Exhibit X-B,Page 2 Column (3) Exhibit V-A-1 Column (4) Exhibit V-A-1 Column (5) Exhibit V-A-1

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### COAL MINE COMPENSATION RATING BUREAU STATE OCCUPATIONAL DISEASE LOSS COST

	(1)	(2)	(3)	(4) Indicated	(5)	(6)	(7)	(8)
<u>Classification</u>	2018 Developed Payroll	Approved Unloaded Loss Cost	Average Freq. per \$1 mill.	Average <u>Severity</u>	Loss Cost (Rate)	Indicated <u>Change</u>	Proposed <u>Change</u>	Proposed Loss Cost
Underground 1011 Anthracite	\$183,346	\$10.30	0.221003	\$706,889	\$15.62	51.7%	25.0%	\$12.88
1002 Bituminous	\$179,699,685	\$0.50	0.021121	\$272,295	0.58	16.0%	16.0%	0.58
Surface 1016 Anthracite	\$19,677,526	\$1.36	0.020980	\$506,061	1.06	-22.1%	-22.1%	1.06
1013 Bituminous	\$35,266,431	0.20	0.008080	\$370,363	0.30	<u>50.0%</u>	<u>25.0%</u>	0.25
Four Standard Classes	\$234,826,988	\$0.53			\$0.59	11.3%	9.4%	\$0.58
1017 Coke 1019 Auger	\$4,456,795 \$560,126	0.08 0.18	0.002394	370,363 370,363	0.09 0.18	12.5% 0.0%	12.5% 0.0%	0.09
Co-Gen 1022 Anthracite 1024 Bituminous	\$11,591,488 \$11,996,610	0.27 0.25	0.004818	506,061 370,363	0.24	-11.1% -4.0%	-11.1% -4.0%	0.24 0.24
Prep Plant 1026 Anthracite	\$9,643,085	2.47	0.050856	506,061	2.57	4.0%	4.0%	2.57
1028 Bituminous	\$32,053,553	<u>0.13</u>	0.004220	370,363	<u>0.16</u>	<u>23.1%</u>	<u>23.1%</u>	0.16
Other Classes	\$70,301,657	\$0.49			\$0.51	4.1%	4.1%	\$0.51
All Classes Combined	\$305,128,645	\$0.52			\$0.57	9.6%	7.7%	\$0.56

Sources: Column (1): Exhibit X-A

Column (2): Exhibit X-B Page 2

Column (3): Exhibit VII-B-1, Column (10)

Column (4): Four Standard Classes - Exhibit VII-A, pages 1 through 4

Coke, Auger, Prep Plant Bituminous and Co-Gen Bituminous = Surface Bituminous

Prep Plant Anthracite, Co-Gen Anthracite = Surface Anthracite

Column (5): [Column (3) times Column (4)] divided by 10,000. Column (6): [Column (5) divided by Column (2)] minus 1.0

Column (7): Column (6) limited to +/- 25%.

Column (8): Column (2) times [1.000+Column(7)] and rounded.

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Effective Date - April 01, 2020 Checksum:919,747,339.581907

### COAL MINE COMPENSATION RATING BUREAU FEDERAL OCCUPATIONAL DISEASE LOSS COST INDICATION

		(1)	(2)	(3)	(4) Indicated	(5)	(6)		(7)	(8)
<u>Classification</u>		2018 Developed Payroll	Approved Unloaded Loss Cost	Average Freq. per \$1 mill.	Average <u>Severity</u>	Loss Cost (Rate)	Indicated <u>Change</u>	Lim	Cost w/ itation 25%	% Change w/Limitation 25%
Underground Anthracite:	Basic Excess Total	\$183,346	\$10.02	0.180561 0.084073	440,988 130,273	7.96 1.10 9.06	-9.6%	\$	9.06	-9.6%
Bituminous:	Basic Excess Total	\$179,746,573	\$0.58	0.010163 0.007882	396,751 244,018	0.40 0.19 0.59	1.7%	\$	0.59	1.7%
Surface Anthracite:	Basic Excess Total	\$18,332,737	\$2.13	0.044670 0.009622	369,748 68,321	1.65 0.07 1.72	-19.2%	\$	1.72	-19.2%
Bituminous:	Basic Excess Total	\$36,110,426	\$0.89	0.020709 0.002673	365,075 211,101	0.76 0.06 0.82	-7.9%	\$	0.82	-7.9%
Four Standard Classes	Basic Excess Total	\$234,373,082	\$0.76			0.56 0.16 0.72	-5.3%	\$	0.72	-5.3%
Coke	Basic Excess Total	\$4,456,795	\$0.10	0.002159 0.000951	365,075 211,101	0.08 0.02 0.10	0.0%	\$	0.10	0.0%
Auger	Basic Excess Total	\$560,126	\$0.43	0.010951 0.002033	365,075 211,101	0.40 0.04 0.44	2.3%	\$	0.44	2.3%
Co-Gen Anthracite:	Basic Excess Total	\$10,018,416	\$0.38	0.009657 0.001789	369,748 68,321	0.36 0.01 0.37	-2.6%	\$	0.37	-2.6%
Bituminous:	Basic Excess Total	\$11,996,610	\$0.31	0.006685 0.002237	365,075 211,101	0.24 0.05 0.29	-6.5%	\$	0.29	-6.5%
Prep Plants Anthracite:	Basic Excess Total	\$6,888,320	\$0.90	0.019669 0.021225	369,748 68,321	0.73 0.15 0.88	-2.2%	\$	0.88	-2.2%
Bituminous:	Basic Excess Total	\$32,053,553	\$0.33	0.007594 0.001535	365,075 211,101	0.28 0.03 0.31	-6.1%	\$	0.31	-6.1%
Other Classes	Basic Excess Total	\$65,973,820	\$0.38			0.32 0.04 0.36	-5.3%	\$	0.36	-5.3%
All Classes Combined	Basic Excess Total	\$300,346,902	\$0.68			0.51 0.13 0.64	-5.9%	\$	0.64	-5.9%

Sources: Column (1): Exhibit X-A

Column (3): Exhibit IV-B page 1 col. (10) (Basic) and Exhibit IV-B page 2 col. (10) (Excess)
Column (4): Four Standard Classes - Exhibit VIII-A (Basic) and Exhibit VII-A, Pages 1 through 4 (Federal Excess).

Coke, Auger, Prep Plant Bituminous and Co-Gen Bituminous = Surface Bituminous

Prep Plant Anthracite, Co-Gen Anthracite = Surface Anthracite

Column (5): [Column (3) times Column (4)] divided by 10,000.

Column (6): [Column (5) divided by Column (2)] minus 1.0

Column (7): Column (2) x [1+Column (8)]

Column (8): Column (6) Limited to +-25%

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			(1)	(2)	(3)	(4)	(5) Cred	(6) libility	(7) Claim	(8)	(9)	(10)
			Estimated	Claim Fred	quency Per 100	Miner Years	Expected		Frequency	Change in		Frequency
		Class	Miner Years	Approved	Trended to	Indicated	Awarded		Indicated w/	Indication	Payroll	Per \$1M
Classification		Code	2009-2018	(Eff 4/1/2019)	4/1/2020	(Eff 4/1/2020)	<u>Claims</u>	<u>Factor</u>	Credibility	After Cred.	2009-2018	Payroll
Underground	: Anthracite	0160	131.5	0.973063	0.973063	0.422594	1.280	0.167	0.881135	-9.4%	6,417,168	0.180561
	Bituminous	0158	19,725.3	0.075272	0.075272	0.076005	14.848	0.568	0.075688	0.6%	1,469,087,699	0.010163
Surface:	Anthracite	0153	3,738.5	0.299052	0.299052	0.157810	11.180	0.493	0.229420	-23.3%	192,005,033	0.044670
	Bituminous	0156	11,229.8	0.116415	0.116415	0.093055	13.073	0.533	0.103964	-10.7%	563,760,252	0.020709
Four Standard	d Classifications		34,825.1	0.115952	0.115952	0.091594	40.381		0.104351		2,231,270,152	0.016287
	Coke	0154	920.8	0.011154	0.011154	0.008257	0.103	0.047	0.011018	-1.2%	47,001,059	0.002159
	Auger	0157	155.5	0.053144	0.053144	0.102609	0.083	0.042	0.055222	3.9%	7,841,451	0.010951
Co-Gen:	Anthracite	0181	1,700.4	0.053926	0.053926	0.022293	0.917	0.141	0.049466	-8.3%	87,097,986	0.009657
	Bituminous	0182	2,001.1	0.036446	0.036446	0.021167	0.729	0.126	0.034521	-5.3%	103,333,762	0.006685
Prep Plants:	Anthracite	0183	1,231.1	0.111138	0.111138	0.051593	1.368	0.173	0.100837	-9.3%	63,114,936	0.019669
	Bituminous	0184	3,868.0	0.061850	0.061850	0.037085	2.392	0.228	0.056204	-9.1%	286,272,579	0.007594
Other Classes	i		9,876.9	0.056619	0.056619	0.031466	5.592		0.051986		594,661,773	0.008634
Total			44,702.0	0.102842	0.102842	0.078308	45.973		0.092781		2,825,931,925	0.014677

Source: (1) Exhibit VIII-B-2

(2) Exhibit IV-B-4

(3) = (2) trended to 4/1/2020 @ 0.0%

(4) Exhibit IV-B-3

 $(5) = (1) \times (3) / 100$ 

 $(6) = [(5) / 45.973] \land (0.5)$ 

(7) = (4)\*(6)+((3)\*(1-(6))

(8) = (7)/(2)-1

(9) Exhibit X-A-3

 $(10) = (7) \times (1) / [(9) * 10,000]$ 

Columns (2),(3),(4) & (7) totals and subtotals are weighted with 10 year estimated miner years.

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### COAL MINE COMPENSATION RATING BUREAU Federal Excess Occupational Disease Classification Frequency

			(1)	(2)	(3)	(4)	(5) Cred	(6) libility	(7) Claim	(8)	(9)	(10)
			Estimated	Claim Fred	quency Per 100	Miner Years	Expected		Frequency	Change in		Frequency
		Class	Miner Years	Approved	Trended to	Indicated	Awarded		Indicated w/	Indication	Payroll	Per \$1M
<u>Classification</u>		<u>Code</u>	2009-2018	(Eff 4/1/2019)	4/1/2020	(Eff 4/1/2020)	<u>Claims</u>	<u>Factor</u>	Credibility	After Cred.	2009-2018	<u>Payroll</u>
Underground:	Anthracite	0160	131.5	0.370632	0.370632	0.595864	0.487	0.176	0.410273	10.7%	6,417,168	0.084073
	Bituminous	0158	19,725.3	0.048619	0.048619	0.061494	9.590	0.783	0.058700	20.7%	1,469,087,699	0.007882
Surface:	Anthracite	0153	3,738.5	0.058241	0.058241	0.034585	2.177	0.373	0.049417	-15.2%	192,005,033	0.009622
	Bituminous	0156	11,229.8	0.010781	0.010781	0.020267	1.211	0.278	0.013418	24.5%	563,760,252	0.002673
Four Standard	Classifications		34,825.1	0.038667	0.038667	0.047329	13.465		0.044429		2,231,270,152	0.006934
	Coke	0154	920.8	0.004955	0.004955	0.003118	0.046	0.054	0.004856	-2.0%	47,001,059	0.000951
	Auger	0157	155.5	0.010488	0.010488	0.003142	0.016	0.032	0.010253	-2.2%	7,841,451	0.002033
Co-Gen:	Anthracite	0181	1,700.4	0.009803	0.009803	0.003613	0.167	0.103	0.009165	-6.5%	87,097,986	0.001789
	Bituminous	0182	2,001.1	0.012702	0.012702	0.003648	0.254	0.127	0.011552	-9.1%	103,333,762	0.002237
Prep Plants:	Anthracite	0183	1,231.1	0.104887	0.104887	0.118563	1.291	0.287	0.108812	3.7%	63,114,936	0.021225
	Bituminous	0184	3,868.0	0.010739	0.010739	0.014535	0.415	0.163	0.011358	5.8%	286,272,579	0.001535
Other Classes			9,876.9	0.022167	0.022167	0.022172	2.189		0.022543		594,661,773	0.003744
Total			44,702.0	0.035021	0.035021	0.041770	15.654		0.039593		2,825,931,925	0.006263

Source: (1) Exhibit VIII-B-2

(2) Exhibit IV-B-6

(3) = (2) trended to 4/1/2020 @ 0.0%

(4) Exhibit IV-B-5

 $(5) = (1) \times (3) / 100$ 

 $(6) = [(5) / 15.654] \land (0.5)$ 

(7) = (4)\*(6)+((3)\*(1-(6))

(8) = (7)/(2)-1

(9) Exhibit X-A-3 Columns (2),(3),(4) & (7) totals and subtotals are weighted with 10 year estimated miner years.

 $(10) = (7) \times (1) / [(9) * 10,000]$ 

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Run Date: 09/27/19 10:22

Effective Date - April 01, 2020

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Checksum:8,477,973,856.032830

### Coal Mine Compensation Rating Bureau

### Federal Basic Occupational Disease Classification Frequency

		Clave	(1) Estimated Miner	(2) Approved Frequency Equivalent Per	(3)	(4)	(5) Weighted Average	(6)
Classification		Class <u>Code</u>	Years <u>2018</u>	100 Miner Years 4/1/2019	Modeled Indication	Experience Indication	of Cols. (3) & (4)	Percent <u>Change</u>
Underground:	Anthracite	0160	3.2	0.973063	0.373104	0.439090	0.422594	-56.57%
	Bituminous	0158	2,177.1	0.075272	0.180382	0.041213	0.076005	0.97%
Surface:	Anthracite	0153	320.9	0.299052	0.159165	0.157358	0.157810	-47.23%
	Bituminous	0156	632.0	0.116415	<u>0.099646</u>	0.090858	0.093055	-20.07%
Four Standard	Classifications		3,133.2	0.107407	0.162120	0.063529	0.088177	-17.90%
	Coke	0154	78.0	0.011154	0.013012	0.006672	0.008257	-25.97%
	Auger	0157	9.8	0.053144	0.249393	0.053681	0.102609	93.08%
Co-Gen:	Anthracite	0181	175.3	0.053926	0.039124	0.016682	0.022293	-58.66%
	Bituminous	0182	210.0	0.036446	0.034629	0.016680	0.021167	-41.92%
Prep Plants:	Anthracite	0183	120.6	0.111138	0.090898	0.038491	0.051593	-53.58%
	Bituminous	0184	388.2	0.061850	0.065991	0.027450	0.037085	-40.04%
,	Other Classes		981.9	0.056942	0.055168	0.023192	0.031186	-45.23%
		Total	4,115.1	0.095366	0.136600	0.053904	0.074578	-21.80%

Source: (1) Exhibit VIII-B-2

(2) Exhibit IV-B-4

(3) Exhibit VIII-F

(4) Exhibit VIII-B-2

(5) = (0.25)\*Col.(3) + (0.75)\*Col.(4)

(6) = (5)/(2) -1

Totals and subtotals are weighted by Miner Years.

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PAB Effective Date - April 01, 2020 Checksum:57,921.876416

### COAL MINE COMPENSATION RATING BUREAU Federal Basic Occupational Disease Classification Frequency

			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10) Approved
<u>Classification</u>		Class <u>Code</u>	Approved Claim Freq. 4/1/2019	Payroll 2008-2017	Estimated Awarded Claims 2008-2017 (1) x (2)	Estimated Miner Years 2009-2018	Estimated Miner Years 2018	Adjustment <u>Factor</u>	Average Weekly Wage 2008	Payroll <u>2008</u>	Estimated Miner Years 2008-2017	Frequency Equivalent Per 100 Miner Years
Underground:	Anthracite Bituminous	0160 0158	0.204365 0.010342	8,370,535 1,390,695,103		131.5 19,725.3	3.2 2,177.1	1.072 1.549	807 807	2,136,713 101,353,977	175.8 19,107.4	0.973063 0.075272
Surface:	Anthracite Bituminous	0153 0156	0.059501 0.023691	189,892,527 602,251,057	11.298795 14.267930	3,738.5 11,229.8	320.9 632.0	1.072 1.072	807 807	16,220,231 74,601,231	3,778.2 12,256.1	0.299052 0.116415
Four Standard	Classifications			2,191,209,222		34,825.1	3,133.2			194,312,152	35,318	
	Coke Auger	0154 0157	0.002260 0.010935	52,305,410 9,788,083		920.8 155.5	78.0 9.8	1.072 1.072	807 807	9,761,146 2,506,758	1,059.8 201.4	0.011154 0.053144
Co-Gen:	Anthracite Bituminous	0181 0182	0.010787 0.007228	84,600,970 99,819,040	0.912591 0.721492	1,700.4 2,001.1	175.3 210.0	1.072 1.072	807 807	7,521,400 8,481,888	1,692.3 1,979.6	0.053926 0.036446
Prep Plants:	Anthracite Bituminous	0183 0184	0.022206 0.008547	61,960,159 275,469,282	1.375887 2.354436	1,231.1 3,868.0	120.6 388.2	1.072 1.549	807 807	5,733,543 21,250,256	1,238.0 3,806.7	0.111138 0.061850
Other Classes				583,942,944		9,876.9	981.9			55,254,991	9,977.8	
Total				2,775,152,166		44,702.0	4,115.1			249,567,143	45,295.3	

Source: (1) Exhibit X-F (Federal Basic Frequency)

(2) Exhibit X-A-3

(3) = (1)x(2) / 1,000,000

(4) Exhibit VIII-B-2

(5) Exhibit VIII-B-2

(6) Exhibit X-G

(7) Exhibit XII-D (8) Exhibit X-A-3

 $(9) = (4)-(5)+(8)/((6)\times(7)\times52)$ 

 $(10) = (3)/(9) \times 100$ 

Checksum:9,074,497,985.274910

### Coal Mine Compensation Rating Bureau

### Federal Excess Occupational Disease Classification Frequency

			(1)	(2) Approved	(3)	(4)	(5)	(6)
			Estimated Miner	Frequency Equivalent Per			Weighted Average	
		Class	Years	100 Miner Years	Modeled	Experience	of Cols.	Percent
<u>Classification</u>		<u>Code</u>	<u>2018</u>	4/1/2019	Indication	<u>Indication</u>	(3) & (4)	<u>Change</u>
Underground:	Anthracite	0160	3.2	0.370632	0.192711	0.730248	0.595864	60.77%
	Bituminous	0158	2,177.1	0.048619	0.047125	0.066283	0.061494	26.48%
Surface:	Anthracite	0153	320.9	0.058241	0.062591	0.025249	0.034585	-40.62%
	Bituminous	0156	632.0	0.010781	0.004963	0.025368	0.020267	87.99%
Four Standard	Classifications	;	3,133.2	0.042301	0.040353	0.054505	0.050968	20.49%
	Coke	0154	78.0	0.004955	0.000302	0.004057	0.003118	-37.07%
	Auger	0157	9.8	0.010488	0.000301	0.004089	0.003142	-70.04%
Co-Gen:	Anthracite	0181	175.3	0.009803	0.002276	0.004059	0.003613	-63.14%
	Bituminous	0182	210.0	0.012702	0.002423	0.004056	0.003648	-71.28%
Prep Plants:	Anthracite	0183	120.6	0.104887	0.100475	0.124592	0.118563	13.04%
	Bituminous	0184	388.2	0.010739	0.001799	0.018780	0.014535	35.35%
	Other Classes		981.9	0.022093	0.014003	0.024683	0.022013	-0.36%
		Total	4,115.1	0.037479	0.034066	0.047389	0.044059	17.56%

Source: (1) Exhibit VIII-B-2

- (2) Exhibit IV-B-6
- (3) Exhibit VII-L
- (4) Exhibit VII-B-2 (Federal Excess Frequency)
- (5) = (0.25)\*Col.(3) + (0.75)\*Col.(4)
- (6) = (5)/(2) -1

Totals and subtotals are weighted with Miner Years

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Effective Date - April 01, 2020 Checksum:57,922.448034

### COAL MINE COMPENSATION RATING BUREAU Federal Excess Occupational Disease Classification Frequency

			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10) Approved
Classification		Class Code	Approved Claim Freq. 4/1/2019	Payroll 2008-2017	Estimated Awarded Claims 2008-2017 (1) x (2)	Estimated Miner Years 2009-2018	Estimated Miner Years 2018	Adjustment <u>Factor</u>	Average Weekly Wage <u>2008</u>	Payroll <u>2008</u>	Estimated Miner Years 2008-2017	Frequency Equivalent Per 100 Miner Years
Underground:	Anthracite	0160	0.077841	8,370,535	0.651571	131.5	3.2	1.072	807	2,136,713	175.8	0.370632
	Bituminous	0158	0.006680	1,390,695,103	9.289843	19,725.3	2,177.1	1.549	807	101,353,977	19,107.4	0.048619
Surface:	Anthracite	0153	0.011588	189,892,527	2.200475	3,738.5	320.9	1.072	807	16,220,231	3,778.2	0.058241
	Bituminous	0156	0.002194	602,251,057	1.321339	11,229.8	632.0	1.072	807	74,601,231	12,256.1	0.010781
Four Standard	Classifications			2,191,209,222		34,825.1	3,133.2			194,312,152	35,318	
	Coke	0154	0.001004	52,305,410	0.052515	920.8	78.0	1.072	807	9,761,146	1,059.8	0.004955
	Auger	0157	0.002158	9,788,083	0.021123	155.5	9.8	1.072	807	2,506,758	201.4	0.010488
Co-Gen:	Anthracite	0181	0.001961	84,600,970	0.165903	1,700.4	175.3	1.072	807	7,521,400	1,692.3	0.009803
	Bituminous	0182	0.002519	99,819,040	0.251444	2,001.1	210.0	1.072	807	8,481,888	1,979.6	0.012702
Prep Plants:	Anthracite	0183	0.020957	61,960,159	1.298499	1,231.1	120.6	1.072	807	5,733,543	1,238.0	0.104887
	Bituminous	0184	0.001484	275,469,282	0.408796	3,868.0	388.2	1.549	807	21,250,256	3,806.7	0.010739
Other Classes				583,942,944		9,876.9	981.9			55,254,991	9,977.8	
Total				2,775,152,166		44,702.0	4,115.1			249,567,143	45,295.3	

Source: (1) Exhibit X-F (Federal Excess Frequency)

(2) Exhibit X-A-3

(3) = (1)x(2) / 1,000,000

(4) Exhibit VIII-B-2

(5) Exhibit VIII-B-2

(6) Exhibit X-G

(7) Exhibit XII-D

(8) Exhibit X-A-3

 $(9) = (4)-(5)+(8)/((6)\times(7)\times52)$ 

 $(10) = (3)/(9) \times 100$ 

Checksum:9,074,497,952.305740

		(1)			(3) ss Cost/U			(6) dibility		(8) w/ Credibility	(9) Proposed	(10)	(11) Proposed
<u>Classification</u>	<u>Code</u>	5 Year <u>Payroll</u>	2018 <u>Payroll</u>	Approved (Eff 4/01/2019)	Approve on <u>Level</u>	d Indicated [Eff 04/01/2020]	Five Year Expected <u>Losses</u>	Credibility <u>Factor</u>	Indicated Loss <u>Cost</u>	Indicated Change	Change after <u>Limitation</u>	Proposed Loss <u>Cost</u>	Change Excluding <u>Trend</u>
Underground: Bituminous	1001	\$988,742,095	\$179,699,685	6.59	6.68	6.65	65,158,104	1.00	6.65	0.9%	0.9%	6.65	-0.5%
Surface: Anthracite Bituminous	1012 1014	\$106,403,065 \$192,519,079	\$19,677,526 \$35,266,431	10.10 2.04	10.24 2.07	7.84 1.79	10,746,710 3,927,389	1.00 1.00	7.84 1.79	-22.4% -12.3%	-22.4% -12.3%	7.84 1.79	-23.4% -13.5%
Three Major Classifications		\$1,287,664,239	\$234,643,642	6.20	6.29	6.02	79,832,203						
Coke	1469	\$22,262,748	\$4,456,795	3.49	3.54	3.97	776,970	0.44	3.73	6.9%	6.9%	3.73	5.4%
Co-Gen: Anthracite Bituminous	1021 1023	\$48,935,762 \$58,228,608	\$11,591,488 \$11,996,610	4.76 1.33	4.83 1.35	8.38 1.29	2,329,342 774,440	0.77 0.44	7.56 1.32	58.8% -0.8%	25.0% -0.8%	5.95 1.32	23.3% -2.1%
Prep Plants: Anthracite Bituminous	1025 1027	\$40,249,211 \$161,644,329	\$9,643,085 \$32,053,553	4.44 2.75	4.50 2.79	3.96 2.66	1,787,065 4,445,219	0.67 1.00	4.14 2.66	-6.8% -3.3%	-6.8% -3.3%	4.14 2.66	-8.0% -4.6%
Auger	1015	\$2,771,226	\$560,126	10.96	11.11	2.70	303,726	0.28	8.76	-20.1%	-20.1%	8.76	-21.2%
Subtotal (6)		\$334,091,884	\$70,301,657	3.12	3.16	3.50	10,416,762						
Underground: Anthracite	1010	\$1,112,634	\$183,346	21.08	21.38	18.85	234,543	0.24	20.12	-4.6%	-4.6%	20.12	-5.9%
Subtotal (7)		\$335,204,518	\$70,485,003	3.18	3.22	3.55	10,651,305						
Total (Based on 5-year Payroll)		\$1,622,868,757	\$305,128,645	5.58	5.65	5.51	\$90,483,508		5.50				
Total (Based on 2018 Payroll, see Exhibit II)			\$305,128,645	5.51					5.46	-0.9%	-2.0%	5.40	

Source: (1) Exhibit V-B

(2) Unloaded Loss Cost Current (Eff 4/01/2019) Exhibit X-B page 2

(3) = (2) X Trend =(2) X(1.014)

1.014=Weighted average of 1.021 and 1.011

Weights derived from 5 year Medical (31,266,407) and Indemnity (58,229,279)

ultimate losses. Exhibit V-B, pg. 1

(4) Exhibit V-B except Underground Anthracite, see Ex V-A-2

(5) Expected Losses = Column (1) times Column (2) divided by 100 (6) Factor Z = [(5)] divided by 3,927,389  $] \land (1/2)$ 

[7] [Column (4) times Column (6)] plus [Column (3) times (1.0 minus Column (6)]], except Underground Anthracite is the average of Column(3) and Column(4).

(8) Column(7) / Column(2) -1.0

(9) Loss costs changes limited to +25% increase , -25% decrease

(10) When Column (8) equals Column (9), then Column (7). Otherwise, Column (2) \* [1 + (9)].

(11) Column(10)/1.014/Column(2)-1.000

### Calculation of Anthracite Underground Loss Cost

Multiplicative Method (Anthracite: Underground vs. Surface)	<u>Indicated</u>	<b>Proposed</b>
Differential Factor from Study	2.66	2.66
Indicated Anthracite Surface Loss Cost	7.84 *	7.84 *
Indicated Anthracite Underground Loss Cost	20.85	20.85
Comparative Hazard Method #1 (Anthracite vs. Bituminous)		
Differential Factor from Study	2.41	2.41
Indicated Bituminous Underground Loss Cost:	6.65 *	6.65 *
Indicated Anthracite Underground Loss Cost	16.03	16.03
Comparative Hazard Method #2 (Surface vs. Underground)		
Differential Factor from Study	2.51	2.51
Indicated Anthracite Surface Loss Cost:	7.84 *	7.84 *
Indicated Anthracite Underground Loss Cost	19.68	19.68
Average	10.05	10 05
Average	18.85	18.85

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<sup>\*</sup> Souce: Exhibit V-A-1

Exhibit V-B Page 1

### All Classifications Combined (10 Classes)

	(1)	(2)	(3)	(4)	(5)
Accident	Reported	Loss	Trend	Ultimate	Loss
<u>Year</u>	<u>Losses</u>	<u>Development</u>	<u>Factor</u>	<u>Losses</u>	<u>Cost</u>
<u>Indemnity</u>					
2014	12,255,326	1.0242	1.0926	13,714,211	3.24
2015	11,602,180	1.0509	1.0801	13,169,369	3.76
2016	8,661,045	1.0947	1.0671	10,117,438	3.97
2017	8,255,335	1.2728	1.0536	11,070,585	3.83
<u>2018</u>	5,566,332	* 2.0500	1.0399	10,157,676 *	3.33
5 Years	\$46,340,218			\$58,229,279	3.59
<u>Medical</u>					
2014	5,883,352	1.1111	1.1423	7,467,207	1.76
2015	3,824,391	1.1173	1.1234	4,800,280	1.37
2016	4,190,581	1.1238	1.1038	5,198,208	2.04
2017	5,882,211	1.1076	1.0811	7,043,513	2.44
<u>2018</u>	5,562,604	* 1.1792	1.0588	6,757,199 *	2.21
5 Years	\$25,343,139			\$31,266,407	1.93
	(6)				
Indemnity &	Developed				
<u>Medical</u>	<u>Payroll</u>				
2014	423,814,574			21,181,418	5.00
2015	350,172,362			17,969,649	5.13
2016	254,559,392			15,315,646	6.01
2017	289,193,784			18,114,098	6.27
<u>2018</u>	305,128,645			16,914,875	<u>5.54</u>
5 Years	\$1,622,868,757			\$89,495,686	5.51

Source: (1) Sum of Exhibit V-B, pages 2 and 6 - column (1)

(2) Exhibit V-C \* Large Claims have been

(3) Exhibit V-F capped at \$1,250,000. See V-B, pages 3b & 9b

(4) (1) times (2) times (3)

(5) (4) divided by (6) times 100

(6) Sum of Exhibit V-B, pages 2 and 6 - column (6)

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Exhibit V-B Page 2

### Three 100% Credibility Classifications (3 Classes)

	(1)	(2)	(3)	(4)	(5)
Accident	Reported	Loss	Trend	Ultimate	Loss
<u>Year</u>	Losses	<u>Development</u>	<u>Factor</u>	Losses	<u>Cost</u>
<u>Indemnity</u>					
2014	11,386,279	1.0242	1.0926	12,741,712	3.69
2015	10,544,385	1.0509	1.0801	11,968,690	4.25
2016	7,415,104	1.0947	1.0671	8,661,986	4.36
2017	7,462,712	1.2728	1.0536	10,007,661	4.41
<u>2018</u>	4,636,758	* 2.0500	1.0399	8,634,624 *	3.68
5 Years	\$41,445,238			\$52,014,673	4.04
<b>A.4</b> = =1; = =1					
<u>Medical</u>	F 000 071	1 1111	1 1 400	/ /00 00/	1.01
2014	5,202,361	1.1111	1.1423	6,602,886	1.91
2015	3,318,947	1.1173	1.1234	4,165,859	1.48
2016	3,481,938	1.1238	1.1038	4,319,171	2.18
2017	4,603,039	1.1076	1.0811	5,511,799	2.43
<u>2018</u>	0,7 7 0, 11 1	* 1.1792	1.0588	4,894,027 *	2.09
5 Years	\$20,404,696			\$25,493,742	1.98
	(6)				
Indemnity &	Developed				
<u>Medical</u>	<u>Payroll</u>				
2014	345,747,513			19,344,598	5.60
2015	281,607,287			16,134,549	5.73
2016	198,557,107			12,981,157	6.54
2017	227,108,690			15,519,460	6.84
<u>2018</u>	234,643,642			13,528,651	<u>5.77</u>
5 Years	\$1,287,664,239			\$77,508,415	6.02

Source: (1) Sum of Exhibit V-B, pages 3,4 and 5 - column (1)

(2) Exhibit V-C

\* Large Claims have been

(3) Exhibit V-F

capped at \$1,250,000. See V-B, page 3b

(4) (1) times (2) times (3)

(5) (4) divided by (6) times 100

(6) Sum of Exhibit V-B, pages 3,4 and 5 - column (6)

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Exhibit V-B Page 3

### **Underground Bituminous 1001**

	(1)	(2)	(3)	(4)	(5)
Accident	Reported	Loss	Trend	Ultimate	Loss
<u>Year</u>	<u>Losses</u>	<u>Development</u>	<u>Factor</u>	<u>Losses</u>	<u>Cost</u>
<u>Indemnity</u>					
2014	10,273,285	1.0242	1.0926	11,496,226	4.24
2015	9,468,612	1.0509	1.0801	10,747,605	4.97
2016	5,978,438	1.0947	1.0671	6,983,738	4.70
2017	5,873,573	1.2728	1.0536	7,876,591	4.56
<u>2018</u>	4,349,276	* 2.0500	1.0399	8,021,771 *	<u>4.46</u>
5 Years	\$35,943,184			\$45,125,931	4.56
<u>Medical</u>					
2014	4,159,492	1.1111	1.1423	5,279,267	1.95
2015	2,702,756	1.1173	1.1234	3,392,431	1.57
2016	2,521,523	1.1238	1.1038	3,127,824	2.11
2017	3,723,238	1.1076	1.0811	4,458,303	2.58
<u>2018</u>	3,353,165	* 1.1792	1.0588	4,338,121 *	<u>2.41</u>
5 Years	\$16,460,174			\$20,595,946	2.08
	(6)				
Indemnity &	Developed				
<u>Medical</u>	<u>Payroll</u>				
2014	271,230,707			16,775,493	6.18
2015	216,454,460			14,140,036	6.53
2016	148,556,407			10,111,562	6.81
2017	172,800,836			12,334,894	7.14
<u>2018</u>	179,699,685			12,359,892	<u>6.87</u>
5 Years	\$988,742,095			\$65,721,877	6.65

Source: (1) CMCRB Database as of 04-30-2019

(2) Exhibit V-C

\* Large Claims have been

(3) Exhibit V-F

capped at \$1,250,000. See V-B, page 3b

(6) Exhibit X-D

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<sup>(4) (1)</sup> times (2) times (3)

<sup>(5) (4)</sup> divided by (6) times 100

### **Underground Bituminous 1001**

### Adjustment for Large Claim(s) (Accident Year 2018)

	Indemnity	Medical	Total
Uncapped Excess Claims	1,835,083	750,000	2,585,083
Percent of Total	71.0%	29.0%	100.00%
Percent x 1,250,000 * 3	2,662,027	1,087,973	3,750,000
Total Reported Loss as of 04-30-2019	4,349,276	3,353,165	
Uncapped Excess Claims	1,835,083	750,000	
Reported Loss ex. Excess Claims	2,514,193	2,603,165	
Loss Development Factor	2.0500	1.1792	
Trend Factor	1.0399	1.0588	
Dev & Trended Loss ex. Excess Claims	5,359,744	3,250,148	
Excess Claims Capped at \$1,250,000	2,662,027	1,087,973	
Dev & Trended Loss w/Excess Claims Capped	8,021,771	4,338,121	

Source: Exhibit V-J

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Exhibit V-B Page 4

### **Surface Anthracite 1012**

	(1)	(2)	(3)	(4)	(5)
Accident	Reported	Loss	Trend	Ultimate	Loss
<u>Year</u>	<u>Losses</u>	<u>Development</u>	<u>Factor</u>	Losses	<u>Cost</u>
<u>Indemnity</u>					
2014	482,239	1.0242	1.0926	539,645	2.64
2015	533,420	1.0509	1.0801	605,473	2.50
2016	1,168,533	1.0947	1.0671	1,365,027	6.54
2017	1,462,712	1.2728	1.0536	1,961,529	9.27
<u>2018</u>	227,740	2.0500	1.0399	485,495	<u>2.47</u>
5 Years	\$3,874,644			\$4,957,169	4.66
<u>Medical</u>					
2014	681,065	1.1111	1.1423	864,414	4.22
2015	332,590	1.1173	1.1234	417,459	1.72
2016	669,848	1.1238	1.1038	830,913	3.98
2017	694,717	1.1076	1.0811	831,872	3.93
<u>2018</u>	350,128	1.1792	1.0588	437,148	2.22
5 Years	\$2,728,348			\$3,381,806	3.18
	(6)				
Indemnity &	Developed				
<u>Medical</u>	<u>Payroll</u>				
2014	20,466,075			1,404,059	6.86
2015	24,218,779			1,022,932	4.22
2016	20,873,611			2,195,940	10.52
2017	21,167,074			2,793,401	13.20
<u>2018</u>	19,677,526			922,643	<u>4.69</u>
5 Years	\$106,403,065			\$8,338,975	7.84

Source: (1) CMCRB Database as of 04-30-2019

- (2) Exhibit V-C
- (3) Exhibit V-F
- (4) (1) times (2) times (3)
- (5) (4) divided by (6) times 100
- (6) Exhibit X-D

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Exhibit V-B Page 5

#### Surface Bituminous 1014

	(1)	(2)	(3)	(4)	(5)
Accident	Reported	Loss	Trend	Ultimate	Loss
<u>Year</u>	<u>Losses</u>	<u>Development</u>	<u>Factor</u>	<u>Losses</u>	<u>Cost</u>
<u>Indemnity</u>					
2014	630,755	1.0242	1.0926	705,841	1.31
2015	542,353	1.0509	1.0801	615,612	1.50
2016	268,133	1.0947	1.0671	313,221	1.08
2017	126,427	1.2728	1.0536	169,541	0.51
<u>2018</u>	59,742	2.0500	1.0399	127,358	0.36
5 Years	\$1,627,410			\$1,931,573	1.00
Medical					
<u>Medical</u> 2014	2/1 004	1.1111	1.1423	450 205	0.05
2014	361,804			459,205	0.85
	283,601	1.1173	1.1234	355,969	0.87
2016	290,567	1.1238	1.1038	360,434	1.24
2017	185,084	1.1076	1.0811	221,624	0.67
<u>2018</u>	95,118	1.1792	1.0588	118,758	0.34
5 Years	\$1,216,174			\$1,515,990	0.79
	(6)				
Indemnity &	Developed				
Medical	<u>Payroll</u>				
2014	54,050,731			1,165,046	2.16
2015	40,934,048			971,581	2.37
2016	29,127,089			673,655	2.32
2017	33,140,780			391,165	1.18
<u>2018</u>	35,266,431			246,116	0.70
5 Years	\$192,519,079			\$3,447,563	1.79

Source: (1) CMCRB Database as of 04-30-2019

- (2) Exhibit V-C
- (3) Exhibit V-F
- (4) (1) times (2) times (3)
- (5) (4) divided by (6) times 100
- (6) Exhibit X-D

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Exhibit V-B Page 6

#### Seven Less Than 100% Credibility Classifications (7 Classes)

	(1)	(2)	(3)	(4)	(5)
Accident	Reported	Loss	Trend	Ultimate	Loss
<u>Year</u>	<u>Losses</u>	<u>Development</u>	<u>Factor</u>	<u>Losses</u>	<u>Cost</u>
<u>Indemnity</u>					
2014	869,047	1.0242	1.0926	972,499	1.25
2015	1,057,795	1.0509	1.0801	1,200,679	1.75
2016	1,245,941	1.0947	1.0671	1,455,452	2.60
2017	792,623	1.2728	1.0536	1,062,924	1.71
<u>2018</u>	929,574	* 2.0500	1.0399	1,523,052 *	<u>2.16</u>
5 Years	\$4,894,980			\$6,214,606	1.85
<u>Medical</u>					
2014	680,991	1.1111	1.1423	864,321	1.11
2015	505,444	1.1173	1.1234	634,421	0.93
2016	708,643	1.1238	1.1038	879,037	1.57
2017	1,279,172	1.1076	1.0811	1,531,714	2.47
<u>2018</u>	1,764,193	* 1.1792	1.0588	1,863,172 *	2.64
5 Years	\$4,938,443			\$5,772,665	1.72
	(6)				
Indemnity &	Developed				
<u>Medical</u>	<u>Payroll</u>				
2014	78,067,061			1,836,820	2.35
2015	68,565,075			1,835,100	2.68
2016	56,002,285			2,334,489	4.17
2017	62,085,094			2,594,638	4.18
<u>2018</u>	70,485,003			3,386,224	<u>4.80</u>
5 Years	\$335,204,518			\$11,987,271	3.58

Source: (1) Sum of Exhibit V-B, pages 7-13 - column (1)

(2) Exhibit V-C

\* Large Claims have been

(3) Exhibit V-F

capped at \$1,250,000. See V-B, page 9b

(4) (1) times (2) times (3)

(5) (4) divided by (6) times 100

(6) Sum of Exhibit V-B, pages 7-13 - column (6)

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Exhibit V-B

Page 7

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	(1)	(2)	(3)	(4)	(5)
Accident	Reported	Loss	Trend	Ultimate	Loss
<u>Year</u>	Losses	<u>Development</u>	<u>Factor</u>	<u>Losses</u>	<u>Cost</u>
<u>Indemnity</u>					
2014	8,157	1.0242	1.0926	9,128	0.20
2015	84,623	1.0509	1.0801	96,054	2.21
2016	22,494	1.0947	1.0671	26,276	0.59
2017	42,083	1.2728	1.0536	56,434	1.24
<u>2018</u>	95,507	2.0500	1.0399	203,601	<u>4.57</u>
5 Years	\$252,864			\$391,493	1.76
<u>Medical</u>					
<u>Medical</u> 2014	3,386	1.1111	1.1423	4,298	0.10
2014	113,337	1.1173	1.1423	142,258	3.28
2013	22,002	1.173	1.1234	27,292	0.62
2017	185,062	1.1238	1.0811	221,598	4.85
2017 2018	77,860	1.1792	1.0588	97,211	2.18
		1.1772	1.0300	·	
5 Years	\$401,647			\$492,657	2.21
	(6)				
Indemnity &	Developed				
<u>Medical</u>	<u>Payroll</u>				
2014	4,464,398			13,426	0.30
2015	4,340,376			238,312	5.49
2016	4,435,066			53,568	1.21
2017	4,566,113			278,032	6.09
<u>2018</u>	4,456,795			300,812	<u>6.75</u>
5 Years	\$22,262,748			\$884,150	3.97

Source: (1) CMCRB Database as of 04-30-2019

- (2) Exhibit V-C
- (3) Exhibit V-F
- (4) (1) times (2) times (3)
- (5) (4) divided by (6) times 100
- (6) Exhibit X-D

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Exhibit V-B Page 8

#### **Auger 1015**

		•			
	(1)	(2)	(3)	(4)	(5)
Accident	Reported	Loss	Trend	Ultimate	Loss
<u>Year</u>	<u>Losses</u>	<u>Development</u>	<u>Factor</u>	Losses	<u>Cost</u>
<u>Indemnity</u>					
2014	8,062	1.0242	1.0926	9,022	1.12
2015	31,531	1.0509	1.0801	35,790	6.14
2016	0	1.0947	1.0671	0	0.00
2017	0	1.2728	1.0536	0	0.00
<u>2018</u>	0	2.0500	1.0399	0	0.00
5 Years	\$39,593			\$44,812	1.62
<u>Medical</u>					
2014	2,714	1.1111	1.1423	3,445	0.43
2015	21,114	1.1173	1.1234	26,502	4.55
2016	132	1.1238	1.1038	164	0.04
2017	0	1.1076	1.0811	0	0.00
<u>2018</u>	0	1.1792	1.0588	0	0.00
5 Years	\$23,960			\$30,111	1.09
	(6)				
Indemnity &	Developed				
<u>Medical</u>	<u>Payroll</u>				
2014	806,976			12,467	1.54
2015	582,619			62,292	10.69
2016	372,496			164	0.04
2017	449,009			0	0.00
<u>2018</u>	560,126			0	0.00
5 Years	\$2,771,226			\$74,923	2.70

Source: (1) CMCRB Database as of 04-30-2019

- (2) Exhibit V-C
- (3) Exhibit V-F
- (4) (1) times (2) times (3)
- (5) (4) divided by (6) times 100
- (6) Exhibit X-D

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#### Co-Gen Anthracite 1021

	(1)	(2)	(3)	(4)	(5)
Accident	Reported	Loss	Trend	Ultimate	Loss
<u>Year</u>	<u>Losses</u>	<u>Development</u>	<u>Factor</u>	<u>Losses</u>	<u>Cost</u>
<u>Indemnity</u>					
2014	206,104	1.0242	1.0926	230,639	2.55
2015	100,480	1.0509	1.0801	114,053	1.09
2016	465,060	1.0947	1.0671	543,262	6.04
2017	389,857	1.2728	1.0536	522,807	5.93
<u>2018</u>	463,967	* 2.0500	1.0399	530,474	<u>4.58</u>
5 Years	\$1,625,468			\$1,941,235	3.97
<u>Medical</u>					
2014	101,893	1.1111	1.1423	129,324	1.43
2015	68,617	1.1173	1.1234	86,126	0.82
2016	301,663	1.1238	1.1038	374,198	4.16
2017	352,994	1.1076	1.0811	422,684	4.79
<u>2018</u>	1,189,731	* 1.1792	1.0588	1,145,935	<u>9.89</u>
5 Years	\$2,014,898			\$2,158,267	4.41
	(6)				
Indemnity &	Developed				
<u>Medical</u>	<u>Payroll</u>				
2014	9,060,883			359,963	3.97
2015	10,469,089			200,179	1.91
2016	8,994,602			917,460	10.20
2017	8,819,700			945,491	10.72
<u>2018</u>	11,591,488			1,676,409	14.47
					<u></u>

Source: (1) CMCRB Database as of 04-30-2019

(2) Exhibit V-C

\* Large Claims have been

(3) Exhibit V-F

capped at \$1,250,000. See V-B, page 9b

(4) (1) times (2) times (3)

(5) (4) divided by (6) times 100

(6) Exhibit X-D

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#### Co-Gen Anthracite 1021

#### Adjustment for Large Claim(s) (Accident Year 2018)

Uncapped Excess Claims Percent of Total Percent x 1,250,000	Indemnity 375,064 27.3% 340,951	Medical 1,000,000 72.7% 909,049	Total 1,375,064 100.00% 1,250,000
Total Reported Loss as of 04-30-2019	463,967	1,189,731	
Uncapped Excess Claims	375,064	1,000,000	
Reported Loss ex. Excess Claims	88,903	189,731	
Loss Development Factor	2.0500	1.1792	
Trend Factor	1.0399	1.0588	
Dev & Trended Loss ex. Excess Claims	189,523	236,886	
Excess Claims Capped at \$1,250,000	340,951	909,049	
Dev & Trended Loss w/Excess Claims Capped	530,474	1,145,935	

Source: Exhibit V-J

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11,910,349.327900

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#### Co-Gen Bituminous 1023

(1)	(2)	(3)	(4)	(5)
Reported	Loss	Trend	Ultimate	Loss
<u>Losses</u>	<u>Development</u>	<u>Factor</u>	<u>Losses</u>	<u>Cost</u>
27,715	1.0242	1.0926	31,014	0.26
70,451	1.0509	1.0801	79,967	0.68
6,706	1.0947	1.0671	7,834	0.07
50,986	1.2728	1.0536	68,373	0.60
63,205	2.0500	1.0399	134,740	<u>1.12</u>
\$219,063			\$321,928	0.55
97,026	1.1111	1.1423	123,146	1.05
29,148	1.1173	1.1234	36,586	0.31
23,310	1.1238	1.1038	28,915	0.26
131,913	1.1076	1.0811	157,956	1.38
65,182	1.1792	1.0588	81,382	0.68
\$346,579			\$427,985	0.74
(6)				
Developed				
<u>Payroll</u>				
11,721,184			154,160	1.32
11,748,205			116,553	0.99
11,327,552			36,749	0.33
11,435,057			226,329	1.98
11,996,610			216,122	<u>1.80</u>
\$58,228,608			\$749,913	1.29
	Reported Losses  27,715 70,451 6,706 50,986 63,205 \$219,063  97,026 29,148 23,310 131,913 65,182 \$346,579  (6) Developed Payroll 11,721,184 11,748,205 11,327,552 11,435,057 11,996,610	Reported Loss         Loss           27,715         1.0242           70,451         1.0509           6,706         1.0947           50,986         1.2728           63,205         2.0500           \$219,063         1.1111           29,148         1.1173           23,310         1.1238           131,913         1.1076           65,182         1.1792           \$346,579         (6)           Developed         Payroll           11,721,184         11,748,205           11,327,552         11,435,057           11,996,610         11,996,610	Reported Losses         Loss         Trend Factor           27,715         1.0242         1.0926           70,451         1.0509         1.0801           6,706         1.0947         1.0671           50,986         1.2728         1.0536           63,205         2.0500         1.0399           \$219,063         1.1111         1.1423           29,148         1.1173         1.1234           23,310         1.1238         1.1038           131,913         1.1076         1.0811           65,182         1.1792         1.0588           \$346,579         (6)         Developed           Payroll         11,721,184         11,748,205           11,327,552         11,435,057         11,996,610	Reported Losses         Loss Development         Trend Factor         Ultimate Losses           27,715         1.0242         1.0926         31,014           70,451         1.0509         1.0801         79,967           6,706         1.0947         1.0671         7,834           50,986         1.2728         1.0536         68,373           63,205         2.0500         1.0399         134,740           \$219,063         \$321,928           97,026         1.1111         1.1423         123,146           29,148         1.1173         1.1234         36,586           23,310         1.1238         1.1038         28,915           131,913         1.1076         1.0811         157,956           65,182         1.1792         1.0588         81,382           \$346,579         \$427,985           (6)         Developed         Payroll         116,553           11,721,184         154,160         116,553           11,327,552         36,749           11,435,057         226,329           11,996,610         216,122

Source: (1) CMCRB Database as of 04-30-2019

- (2) Exhibit V-C
- (3) Exhibit V-F
- (4) (1) times (2) times (3)
- (5) (4) divided by (6) times 100
- (6) Exhibit X-D

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Exhibit V-B

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#### **Prep Plants Anthracite 1025**

	(1)	(2)	(3)	(4)	(5)
Accident	Reported	Loss	Trend	Ultimate	Loss
<u>Year</u>	Losses	<u>Development</u>	<u>Factor</u>	<u>Losses</u>	<u>Cost</u>
<u>Indemnity</u>					
2014	56,749	1.0242	1.0926	63,504	0.77
2015	274,264	1.0509	1.0801	311,311	4.09
2016	168,017	1.0947	1.0671	196,270	2.80
2017	6,566	1.2728	1.0536	8,805	0.11
<u>2018</u>	161,493	2.0500	1.0399	344,270	3.57
5 Years	\$667,089			\$924,160	2.30
<u>Medical</u>					
<u>Medical</u> 2014	65,673	1.1111	1.1423	83,353	1.01
2014	130,671	1.1173	1.1423	164,015	2.16
2016	68,171	1.173	1.1234	84,563	1.20
2017	33,115	1.1076	1.0811	39,653	0.51
2017 2018	237,984	1.1792	1.0588	297,132	3.08
		1.1772	1.0300		
5 Years	\$535,614			\$668,716	1.66
	(6)				
Indemnity &	Developed				
<u>Medical</u>	<u>Payroll</u>				
2014	8,234,771			146,857	1.78
2015	7,606,274			475,326	6.25
2016	7,018,927			280,833	4.00
2017	7,746,154			48,458	0.62
<u>2018</u>	9,643,085			641,402	<u>6.65</u>
5 Years	\$40,249,211			\$1,592,876	3.96

Source: (1) CMCRB Database as of 04-30-2019

- (2) Exhibit V-C
- (3) Exhibit V-F
- (4) (1) times (2) times (3)
- (5) (4) divided by (6) times 100
- (6) Exhibit X-D

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Exhibit V-B

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Pren	<b>Plants</b>	<b>Bituminous</b>	1027
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	(1)	(2)	(3)	(4)	(5)
Accident	Reported	Loss	Trend	Ultimate	Loss
<u>Year</u>	Losses	<u>Development</u>	<u>Factor</u>	Losses	<u>Cost</u>
<u>Indemnity</u>					
2014	562,260	1.0242	1.0926	629,192	1.45
2015	327,577	1.0509	1.0801	371,825	1.11
2016	583,664	1.0947	1.0671	681,810	2.88
2017	303,131	1.2728	1.0536	406,505	1.41
<u>2018</u>	145,402	2.0500	1.0399	309,967	0.97
5 Years	\$1,922,034			\$2,399,299	1.48
<u>Medical</u>					
2014	410,299	1.1111	1.1423	520,755	1.20
2015	70,257	1.1173	1.1234	88,185	0.26
2016	293,365	1.1238	1.1038	363,905	1.54
2017	576,088	1.1076	1.0811	689,823	2.39
<u>2018</u>	193,436	1.1792	1.0588	241,512	<u>0.75</u>
5 Years	\$1,543,445			\$1,904,180	1.18
	(4)				
Indemnity &	(6) Developed				
Medical	<u>Payroll</u>				
2014	43,520,040			1,149,947	2.65
2015	33,564,176			460,010	1.37
2013	23,689,882			1,045,715	4.42
2017	28,816,678			1,096,328	3.80
2017 2018	32,053,553			551,479	1.72
5 Years	\$161,644,329			\$4,303,479	2.66
2 Lears	φ101,0 <del>44</del> ,329			\$ <del>4</del> ,303,4/9	2.00

Source: (1) CMCRB Database as of 04-30-2019

- (2) Exhibit V-C
- (3) Exhibit V-F
- (4) (1) times (2) times (3)
- (5) (4) divided by (6) times 100
- (6) Exhibit X-D

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#### **Underground Anthracite - 1010**

	(1)	(2)	(3)	(4)	(5)
Accident	Reported	Loss	Trend	Ultimate	Loss
<u>Year</u>	<u>Losses</u>	<u>Development</u>	<u>Factor</u>	<u>Losses</u>	<u>Cost</u>
<u>Indemnity</u>					
2014	0	1.0242	1.0926	0	0.00
2015	168,869	1.0509	1.0801	191,679	75.36
2016	0	1.0947	1.0671	0	0.00
2017	0	1.2728	1.0536	0	0.00
<u>2018</u>	0	2.0500	1.0399	0	0.00
5 Years	\$168,869			\$191,679	17.23
<u>Medical</u>					
2014	0	1.1111	1.1423	0	0.00
2015	72,300	1.1173	1.1234	90,749	35.68
2016	0	1.1238	1.1038	0	0.00
2017	0	1.1076	1.0811	0	0.00
<u>2018</u>	0	1.1792	1.0588	0	0.00
5 Years	\$72,300			\$90,749	8.16
	(6)				
Indemnity &	Developed				
<u>Medical</u>	<u>Payroll</u>				
2014	258,809			0	0.00
2015	254,336			282,428	111.04
2016	163,760			0	0.00
2017	252,383			0	0.00
<u>2018</u>	183,346			0	0.00
5 Years	\$1,112,634			\$282,428	25.38

Source: (1) CMCRB Database as of 04-30-2019

- (2) Exhibit V-C
- (3) Exhibit V-F
- (4) (1) times (2) times (3)
- (5) (4) divided by (6) times 100
- (6) Exhibit X-D

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Exhibit V-B

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#### Five Other Classifications [Page 6 less Pages 8 & 13] - (5 Classes)

	(1)	(2)	(3)	(4)	(5)
Accident	Reported	Loss	Trend	Ultimate	Loss
<u>Year</u>	<u>Losses</u>	<u>Development</u>	<u>Factor</u>	Losses	<u>Cost</u>
<u>Indemnity</u>					
2014	860,985	1.0242	1.0926	963,477	1.25
2015	857,395	1.0509	1.0801	973,210	1.44
2016	1,245,941	1.0947	1.0671	1,455,452	2.62
2017	792,623	1.2728	1.0536	1,062,924	1.73
<u>2018</u>	929,574	* 2.0500	1.0399	1,523,052 *	2.18
5 Years	\$4,686,518			\$5,978,115	1.80
<u>Medical</u>					
2014	678,277	1.1111	1.1423	860,876	1.12
2015	412,030	1.1173	1.1234	517,170	0.76
2016	708,511	1.1238	1.1038	878,873	1.58
2017	1,279,172	1.1076	1.0811	1,531,714	2.50
<u>2018</u>	1,764,193	* 1.1792	1.0588	1,863,172 *	2.67
5 Years	\$4,842,183			\$5,651,805	1.71
	(6)				
Indemnity &	Developed				
<u>Medical</u>	<u>Payroll</u>				
2014	77,001,276			1,824,353	2.37
2015	67,728,120			1,490,380	2.20
2016	55,466,029			2,334,325	4.20
2017	61,383,702			2,594,638	4.23
<u>2018</u>	69,741,531			3,386,224	<u>4.85</u>
5 Years	\$331,320,658			\$11,629,920	3.51

Source: (1) Exhibit V-B, page 6 minus page 8, column (1) minus page 13, column (1)

(2) Exhibit V-C

\* Large Claims have been

(3) Exhibit V-F

capped at \$1,250,000. See V-B, page 9b

(4) (1) times (2) times (3)

(5) (4) divided by (6) times 100

(6) Exhibit V-B, page 6 minus page 13 - column (6)

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PAB

Run Date: September 10, 2019 - 01:50:13 PM Effective Date - April 01, 2020

#### Coal Mine Compensation Rating Bureau Indemnity & Funeral Traumatic Loss Development Selected Loss Development Factors

(1)	(2) Average	(3)	(4)	(5) Derived	(6)	(7)	(8) Accumulated
Development	of Middle	PCRB	CMCRB vs. PCRB	Development	Selected	Differences	Selected
<u>Period</u>	<u>Four</u>	<u>Factor</u>	<u>Comparison</u>	<u>Factor</u>	<u>Factor</u>	Average vs Selected	<u>Factor</u>
1:2	1.6106	1.3675	0.2431	1.6106	1.6106	0.0000	2.0500
2:3	1.1627	1.1000	0.0627	1.1627	1.1627	0.0000	1.2728
3:4	1.0417	1.0259	0.0158	1.0417	1.0417	0.0000	1.0947
4:5	1.0261	1.0056	0.0205	1.0261	1.0261	0.0000	1.0509
5:6	0.9936	1.0045	-0.0109	1.0019	1.0019	-0.0083	1.0242
6:7	1.0111	1.0048	0.0063	1.0018	1.0018	0.0093	1.0223
7:8	1.0037	1.0021	0.0016	1.0017	1.0017	0.0020	1.0205
8:9	1.0037	1.0018	0.0019	1.0016	1.0016	0.0021	1.0188
9:10	1.0006	1.0022	-0.0016	1.0016	1.0016	-0.0010	1.0171
10:11	1.0033	1.0013	0.0020	1.0015	1.0015	0.0018	1.0155
11:12	1.0000	1.0016	-0.0016	1.0014	1.0014	-0.0014	1.0140
12:13	1.0017	1.0006	0.0011	1.0013	1.0013	0.0004	1.0126
13:14	0.9931	1.0004	-0.0073	1.0013	1.0013	-0.0082	1.0112
14:15	1.0020	1.0007	0.0013	1.0012	1.0012	0.0008	1.0099
15:16	1.0008	1.0004	0.0004	1.0011	1.0011	-0.0003	1.0087
16:17	1.0001	0.9999	0.0002	1.0010	1.0010	-0.0009	1.0076
17:18	1.0015	1.0004	0.0011	1.0010	1.0010	0.0005	1.0065
18:19	1.0037	1.0005	0.0032	1.0009	1.0009	0.0028	1.0055
19:20	1.0014	1.0004	0.0010	1.0008	1.0008	0.0006	1.0046
20:Ult	XX	1.0033	XX	1.0038	1.0038		1.0038

#### Sources:

- (1) Reports spanned by age-to-age factors
- (2) Exhibit V-D Page 1 and VI-A Page 4
- (3) Exhibit V-D-3
- (4) Col.(2) Col.(3)
- (5) Exhibit V-D-2 Col.(5)
- (6) Selected equal to Col.(5)
- (7) Col.(2) Col.(6)
- (8) Upward accumulation of Col.(6)

#### Coal Mine Compensation Rating Bureau Medical Traumatic Loss Development Selected Loss Development Factors

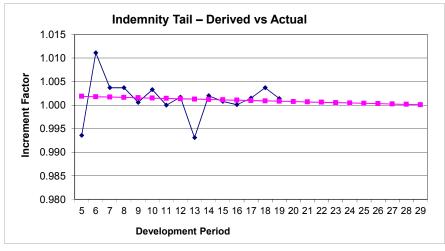
(1)	(2) Average	(3)	(4)	(5) Derived	(6)	(7)	(8) Accumulated
Development	of Middle	PCRB	CMCRB vs. PCRB	Development	Selected	Differences	Selected
<u>Period</u>	<u>Four</u>	<u>Factor</u>	<u>Comparison</u>	<u>Factor</u>	<u>Factor</u>	Average vs Selected	<u>Factor</u>
1:2	1.0646	1.0731	-0.0085	1.0646	1.0646	0.0000	1.1792
2:3	0.9856	1.0262	-0.0406	0.9856	0.9856	0.0000	1.1076
3:4	0.9966	1.0046	-0.0080	1.0058	1.0058	-0.0092	1.1238
4:5	1.0133	1.0149	-0.0016	1.0056	1.0056	0.0072	1.1173
5:6	0.9953	1.0048	-0.0095	1.0055	1.0055	-0.0102	1.1111
6:7	1.0114	1.0090	0.0024	1.0053	1.0053	0.0061	1.1051
7:8	0.9968	1.0059	-0.0091	1.0051	1.0051	-0.0083	1.0993
8:9	1.0069	1.0072	-0.0003	1.0050	1.0050	0.0019	1.0937
9:10	1.0089	1.0047	0.0042	1.0048	1.0048	0.0041	1.0883
10:11	1.0130	1.0069	0.0061	1.0046	1.0046	0.0084	1.0831
11:12	1.0068	1.0074	-0.0006	1.0045	1.0045	0.0023	1.0781
12:13	1.0103	1.0064	0.0039	1.0043	1.0043	0.0060	1.0733
13:14	1.0054	1.0045	0.0009	1.0042	1.0042	0.0012	1.0687
14:15	1.0067	1.0070	-0.0003	1.0040	1.0040	0.0027	1.0643
15:16	0.9924	1.0038	-0.0114	1.0038	1.0038	-0.0114	1.0601
16:17	0.9832	1.0049	-0.0217	1.0037	1.0037	-0.0205	1.0561
17:18	1.0102	1.0038	0.0064	1.0035	1.0035	0.0067	1.0522
18:19	1.0001	1.0028	-0.0027	1.0033	1.0033	-0.0032	1.0485
19:20	1.0127	1.0062	0.0065	1.0032	1.0032	0.0095	1.0450
20:Ul†	xx	1.0534	xx	1.0417	1.0417		1.0417

#### Sources:

- (1) Reports spanned by age-to-age factors
- (2) Exhibit V-E Page 1 and VI-B Page 4
- (3) Exhibit V-E-3
- (4) Col.(2) Col.(3)
- (5) Exhibit V-E-2 Col.(6)
- (6) Selected equal to Col.(5)
- (7) Col.(2) Col.(6)
- (8) Upward accumulation of Col.(6)

### Exhibit V-D-1 is the same as VI-A-4

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Development	Age-to-Age	Derived	Accumulated	Model	Accumulated	Derived	Accumulated	Tail	Model	Accumulated
Period	<u>Factor</u>	<u>Factor</u>	Age-to-Age Fac.	<u>Factors</u>	Model Factors	<u>Factor</u>	Derived Factor	Devel. Period	<u>Factors</u>	Model Factors
1	1.6106	1.6106	2.0424	1.6106	XX	XX	XX			
2	1.1627	1.1627	1.2681	1.1627	XX	XX	XX			
3	1.0417	1.0417	1.0907	1.0417	XX	XX	XX			
4	1.0261	1.0261	1.0470	1.0261	XX	XX	XX			
5	0.9936	1.0019	1.0204	1.0019	1.0204	1.0019	1.0204			
6	1.0111	1.0018	1.0269	1.0018	1.0185	1.0018	1.0185	-		
7	1.0037	1.0017	1.0157	1.0017	1.0166	1.0017	1.0166			
8	1.0037	1.0016	1.0119	1.0016	1.0149	1.0016	1.0149			
9	1.0006	1.0016	1.0082	1.0016	1.0132	1.0016	1.0132			
10	1.0033	1.0015	1.0076	1.0015	1.0117	1.0015	1.0117			
11	1.0000	1.0014	1.0043	1.0014	1.0102	1.0014	1.0102			
12	1.0017	1.0013	1.0043	1.0013	1.0087	1.0013	1.0087			
13	0.9931	1.0013	1.0026	1.0013	1.0074	1.0013	1.0074			
14	1.0020	1.0012	1.0095	1.0012	1.0061	1.0012	1.0061			
15	1.0008	1.0011	1.0075	1.0011	1.0049	1.0011	1.0049			
16	1.0001	1.0010	1.0067	1.0010	1.0038	1.0010	1.0038			
17	1.0015	1.0010	1.0066	1.0010	1.0027	1.0010	1.0027			
18	1.0037	1.0009	1.0051	1.0009	1.0017	1.0009	1.0017			
19	1.0014	1.0008	1.0014	1.0008	1.0008	1.0008	1.0008			
20		1.0008						20	1.0008	1.0042
21		1.0007						21	1.0007	1.0035
22		1.0006						22	1.0006	1.0028
23		1.0005						23	1.0005	1.0022
24		1.0005						24	1.0005	1.0017
25		1.0004						25	1.0004	1.0012
26		1.0003						26	1.0003	1.0008
27		1.0002						27	1.0002	1.0005
28		1.0002						28	1.0002	1.0003
29		1.0001						29	1.0001	1.0001



#### Source:

- (1) Development Period: e.g."1" = 12 months to 24 months
- (2) Exhibit V-D-1 and VI-A-4
- (3) 1 thru 4 Col.(2) 5 thru 19 Col. (7)
  - 20 thru 29 Col. (10)
- (4) = Accumulation of Col.(2)
- (5) From Model: Refer to Written Report (6) Accumulation of Col.(5)
- (7) Col.(5) adjusted
- (8) Accumulation of Col.(7)
- (9) Tail Development Period
- (10) Final Tail Calculation
- (11) Accumulation of Col. (10)

CMCRB tail tactor	1.0042
PCRB tail factor	1.0033
Selected Tail Factor	1.0038

# Coal Mine Compensation Rating Bureau Traumatic Loss Development Indemnity & Funeral Loss Development Tail Factor PCRB Development and Tail Factors

(1)	(2)	(3)	(4)
	Age-to-Age		Cumulative
Span of	Incurred Loss	Span of	Incurred Loss
<u>Maturities</u>	<u>Factors</u>	<u>Maturities</u>	<u>Factors</u>
1 to 2	1.3675	1 to Ult	1.5909
2 to 3	1.1000	2 to Ult	1.1634
3 to 4	1.0259	3 to Ult	1.0576
4 to 5	1.0056	4 to Ult	1.0309
5 to 6	1.0045	5 to Ult	1.0252
6 to 7	1.0048	6 to Ult	1.0206
7 to 8	1.0021	7 to Ult	1.0157
8 to 9	1.0018	8 to Ult	1.0136
9 to 10	1.0022	9 to Ult	1.0118
10 to 11	1.0013	10 to Ult	1.0095
11 to 12	1.0016	11 to Ult	1.0082
12 to 13	1.0006	12 to Ult	1.0066
13 to 14	1.0004	13 to Ult	1.0060
14 to 15	1.0007	14 to Ult	1.0056
15 to 16	1.0004	15 to Ult	1.0049
16 to 17	0.9999	16 to Ult	1.0045
17 to 18	1.0004	17 to Ult	1.0046
18 to 19	1.0005	18 to Ult	1.0042
19 to 20	1.0004	19 to Ult	1.0037
20 to Ult	1.0033	20 to Ult	1.0033
20 to 21	1.0000		
21 to 22	1.0003		
22 to 23	0.9999		
23 to 24	1.0007		
24 to 25	1.0000		
25 to 26	1.0004		
26 to 27	1.0004		
27 to 28	1.0003		
28 to 29	0.9999		
29 to 30	1.0005		
Beyond	1.0009		
,			

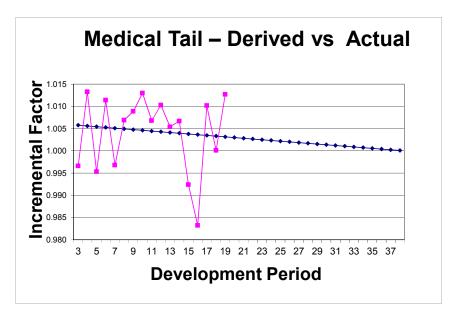
Source: PCRB Loss Cost Filing effective April 1, 2019 - Exhibit 6-2 (As amended January 21, 2019)

The 20:Ult Factor is the product of PCRB factors beyond 19:20.

### Exhibit V-E-1 is the same as VI-B-4

#### Coal Mine Compensation Rating Bureau Medical Tail – Derived vs Actual

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Average		Adjusted	Accumulated Adjusted	Derived	Accumulated	Tail	Derived	Accumulation of
Development	Age-toAge	PCRB	Age-to-Age	Age-to-Age	Development	Derived	Development	Development	Derived Subsequent
<u>Period</u>	<u>Factor</u>	<u>Factors</u>	<u>Factor</u>	<u>Factor</u>	<u>Factor</u>	<u>Factor</u>	Period	<u>Factor</u>	<u>Factors</u>
1	1.0646		1.0646	1.1321	1.0646	1.1321	20	1.0030	1.0299
2	0.9856		0.9856	1.0634	0.9856	1.0634	21	1.0029	1.0268
3	0.9966		0.9966	1.0789	1.0058	1.0789	22	1.0027	1.0239
4	1.0133		1.0133	1.0826	1.0056	1.0727	23	1.0025	1.0211
5	0.9953		0.9953	1.0684	1.0055	1.0667	24	1.0024	1.0186
6	1.0114		1.0114	1.0735	1.0053	1.0609	25	1.0022	1.0162
7	0.9968		0.9968	1.0614	1.0051	1.0553	26	1.0020	1.0139
8	1.0069		1.0069	1.0648	1.0050	1.0500	27	1.0019	1.0119
9	1.0089		1.0089	1.0575	1.0048	1.0448	28	1.0017	1.0100
10	1.0130	1.0069	1.0100	1.0481	1.0046	1.0398	29	1.0016	1.0083
11	1.0068	1.0074	1.0071	1.0378	1.0045	1.0350	30	1.0014	1.0067
12	1.0103	1.0064	1.0084	1.0305	1.0043	1.0304	31	1.0012	1.0053
13	1.0054	1.0045	1.0050	1.0220	1.0042	1.0259	32	1.0011	1.0041
14	1.0067	1.0070	1.0069	1.0169	1.0040	1.0217	33	1.0009	1.0030
15	0.9924	1.0038	0.9981	1.0100	1.0038	1.0176	34	1.0007	1.0021
16	0.9832	1.0049	0.9941	1.0119	1.0037	1.0138	35	1.0006	1.0013
17	1.0102	1.0038	1.0070	1.0180	1.0035	1.0100	36	1.0004	1.0008
18	1.0001	1.0028	1.0015	1.0109	1.0033	1.0065	37	1.0003	1.0003
19	1.0127	1.0062	1.0095	1.0095	1.0032	1.0032	38	1.0001	1.0001



CMCRB derived tail factor	1.0299
PCRB tail factor	1.0534
Selected	1.0417

Sources: (1) Development period:e.g. "1" =12 months to 24 months

- (2) Exhibit VI-B-4
- (3) PCRB Factors (Exhibit V-E-3)
- (4) (1) thru (9): Col. (2)
  - (10) thru (19): average of Col. (2) and Col. (3)
- (5) Accumulation of (4)
- (6) See (4) above plus refer to written report.
- (7) Accumulation of (6)
- (8) Tail Factor Development Periods
- (9) Final Tail Calculation
- (10) Upward accumulation of Col. (9)

# Coal Mine Compensation Rating Bureau Traumatic Loss Development Medical Loss Development Tail Factor PCRB Development and Tail Factors

(1)	(2) Age-to-Age	(3)	(4) Cumulative
Span of	Incurred Loss	Span of	Incurred Loss
<u>Maturities</u>	<u>Factors</u>	<u>Maturities</u>	<u>Factors</u>
1 to 2	1.0731	1 to Ult.	1.2877
2 to 3	1.0262	2 to Ult.	1.2000
3 to 4	1.0046	3 to Ult.	1.1693
4 to 5	1.0149	4 to Ult.	1.1640
5 to 6	1.0048	5 to Ult.	1.1469
6 to 7	1.0090	6 to Ult.	1.1414
7 to 8	1.0059	7 to Ult.	1.1312
8 to 9	1.0072	8 to Ult.	1.1246
9 to 10	1.0047	9 to Ult.	1.1166
10 to 11	1.0069	10 to Ult.	1.1113
11 to 12	1.0074	11 to Ult.	1.1037
12 to 13	1.0064	12 to Ult.	1.0956
13 to 14	1.0045	13 to Ult.	1.0887
14 to 15	1.0070	14 to Ult.	1.0838
15 to 16	1.0038	15 to Ult.	1.0762
16 to 17	1.0049	16 to Ult.	1.0722
17 to 18	1.0038	17 to Ult.	1.0669
18 to 19	1.0028	18 to Ult.	1.0629
19 to 20	1.0062	19 to Ult.	1.0599
20 to Ult.	1.0534	20 to Ult.	1.0534
20 to 21	1.0070		
21 to 22	1.0057		
22 to 23	1.0038		
23 to 24	1.0055		
24 to 25	1.0034		
25 to 26	1.0067		
26 to 27	1.0033		
27 to 28	1.0021		
28 to 29	0.9992		
29 to 30	1.0093		
Beyond	1.0062		

Source: PCRB Loss Cost Filing effective April 1, 2019 - Exhibit 6-14 (As amended January 21, 2019)

The 20:Ult Factor is the product of PCRB factors beyond 19:20.

#### Traumatic Loss Trend

#### Indemnity, Funeral and Medical for All Classes Combined

#### Trend Factors

#### Indemnity and Funeral

Annuc	al Percentage Change:	1.1%	Annual			HB 1846	HB 1840	Adjusted
			Percentage		Trend	Adjustment	Adjustment	Trend
Accident Year	Trend Period - Ye	ars	<u>Change</u>	<u>Formula</u>	<u>Factor</u>	<u>Factor</u>	<u>Factor</u>	<u>Factor</u>
2014	7-1-14 to 4-1-2021	6.75	1.1%	(1+0.011) ^ 6.75	1.0766	1.0000	1.0149	1.0926
2015	7-1-15 to 4-1-2021	5.75	1.1%	(1+0.011) ^ 5.75	1.0649	1.0000	1.0143	1.0801
2016	7-1-16 to 4-1-2021	4.75	1.1%	(1+0.011) ^ 4.75	1.0533	1.0000	1.0131	1.0671
2017	7-1-17 to 4-1-2021	3.75	1.1%	(1+0.011) ^ 3.75	1.0419	1.0000	1.0112	1.0536
2018	7-1-18 to 4-1-2021	2.75	1.1%	(1+0.011) ^ 2.75	1.0305	1.0000	1.0091	1.0399

#### Medical and Medical Only

Annual Percentage Change: 2.1%

			Annual			HB 1846	HB 1840	Adjusted
			Percentage		Trend	Adjustment	Adjustment	Trend
Accident Year	Trend Period - Ye	ears	<u>Change</u>	<u>Formula</u>	<u>Factor</u>	<u>Factor</u>	<u>Factor</u>	<u>Factor</u>
2014	7-1-14 to 4-1-2021	6.75	2.1%	(1+0.021) ^ 6.75	1.1506	0.9928	1.0000	1.1423
2015	7-1-15 to 4-1-2021	5.75	2.1%	(1+0.021) ^ 5.75	1.1269	0.9969	1.0000	1.1234
2016	7-1-16 to 4-1-2021	4.75	2.1%	(1+0.021) ^ 4.75	1.1038	1.0000	1.0000	1.1038
2017	7-1-17 to 4-1-2021	3.75	2.1%	(1+0.021) ^ 3.75	1.0811	1.0000	1.0000	1.0811
2018	7-1-18 to 4-1-2021	2.75	2.1%	(1+0.021) ^ 2.75	1.0588	1.0000	1.0000	1.0588

Source: Annual Percentage Change - Exhibit V-K

## Traumatic Loss Trend Indemnity and Funeral Losses for All Classes Combined

	(1)	(2)	(3)	(4)
	Indemnity	Loss		Loss
	Case Incurred	Development	Ultimate	Cost
<u>Year</u>	<u>Losses</u>	<u>Factors</u>	<u>Losses</u>	<u>Premium</u>
2009	5,295,724	1.0155	5,377,808	11,684,524
2010	7,433,505	1.0171	7,560,618	13,510,619
2011	8,518,112	1.0188	8,678,253	16,535,220
2012	9,796,893	1.0205	9,997,729	17,230,534
2013	7,652,267	1.0223	7,822,913	16,100,116
2014	12,255,326	1.0242	12,551,905	24,369,728
2015	11,602,180	1.0509	12,192,731	20,448,272
2016	8,661,045	1.0947	9,481,246	14,771,801
2017	8,255,335	1.2728	10,507,390	16,753,814
2018	5,566,332	2.0500	9,670,180 *	17,432,005

#### Sources:

- (1) Exhibit V-D,pg.1 or Exhibit VI-A,pg.4
- (2) Exhibit V-C-1 Column (8)
- (3) = (1)x(2)
- (4) Exhibit X-B
- \* Note: Ultimate losses for 2018 reflect limitation on large claims, see Exhibit V-J

#### Traumatic Loss Trend Medical and Medical Only Losses for All Classes Combined

	(1)	(2)	(3)	(4)
	Medical	Loss		Loss
	Case Incurred	Development	Ultimate	Cost
<u>Year</u>	Losses	<u>Factors</u>	Losses	<u>Premium</u>
2009	3,137,264	1.0831	3,397,971	11,684,524
2010	4,314,642	1.0883	4,695,625	13,510,619
2011	6,232,068	1.0937	6,816,013	16,535,220
2012	5,458,952	1.0993	6,001,026	17,230,534
2013	4,082,497	1.1051	4,511,567	16,100,116
2014	5,883,352	1.1111	6,536,992	24,369,728
2015	3,824,391	1.1173	4,272,992	20,448,272
2016	4,190,581	1.1238	4,709,375	14,771,801
2017	5,882,211	1.1076	6,515,137	16,753,814
2018	5,562,604	1.1792	6,705,823 *	17,432,005

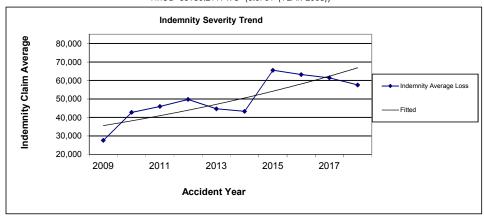
#### Sources

- (1) Exhibit V-E,pg.1 or Exhibit VI-B,pg.4
- (2) Exhibit V-C-2 Column (8)
- $(3) = (1) \times (2)$
- (4) Exhibit X-B
- \* Note: Ultimate losses for 2018 reflect limitation on large claims, see Exhibit V-J

	(1)	(2)	(3)	(4) Annual
	Ultimate	Claim	Average	Average Loss
<u>Year</u>	<u>Losses</u>	<u>Counts</u>	Loss	<u>Change</u>
2009	5,377,808	195	27,579	
2010	7,560,618	177	42,715	54.9%
2011	8,678,253	189	45,917	7.5%
2012	9,997,729	201	49,740	8.3%
2013	7,822,913	175	44,702	-10.1%
2014	12,551,905	290	43,282	-3.2%
2015	12,192,731	186	65,552	51.5%
2016	9,481,246	150	63,208	-3.6%
2017	10,507,390	171	61,447	-2.8%
2018	9,670,180 *	168	57,561	-6.3%

Indemnity Severity Trend Factor: Source: Summary Exhibit (V-K) 1.065

#### Fitted=33180.2119 x e^(0.0701\*(YEAR-2008))



Sources:

(1) Exhibit V-H page 1, Column (3)

(2) Exhibit VI-C-1

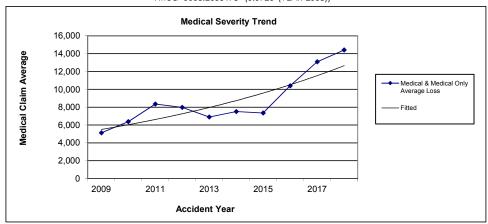
(4) (Current Avg. Loss / Prior Avg. Loss -1.0) x 100

\* Note: Ultimate losses for 2018 reflect limitation on large claims, see Exhibit V-J

	(1)	(2)	(3)	(4) Annual
	Ultimate	Claim	Average	Average Loss
<u>Year</u>	Losses	<u>Counts</u>	Loss	<u>Change</u>
2009	3,397,971	664	5,117	
2010	4,695,625	736	6,380	24.7%
2011	6,816,013	816	8,353	30.9%
2012	6,001,026	753	7,969	-4.6%
2013	4,511,567	654	6,898	-13.4%
2014	6,536,992	871	7,505	8.8%
2015	4,272,992	582	7,342	-2.2%
2016	4,709,375	453	10,396	41.6%
2017	6,515,137	498	13,083	25.8%
2018	6,705,823 *	465	14,421	10.2%

Medical Severity Trend Factor: Source: Summary Exhibit (V-K) 1.090

#### Fitted=5008.2633 x e^(0.0926\*(YEAR-2008))



Sources:

(1) Exhibit V-H page 2,Column (3)

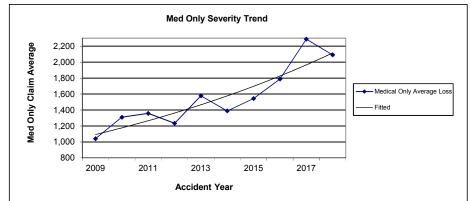
(2) Exhibit VI-C-1 + Exhibit VI-C-2

\* Note: Ultimate losses for 2018 reflect limitation on large claims, see Exhibit V-J

	(1)	(2)	(3)	(4)
	Ultimate	Ultimate		Annual
	Claim	Incurred	Average	Average Loss
<u>Year</u>	<u>Counts</u>	Losses	Loss	<u>Change</u>
2009	469	488,067	1,041	
2010	559	732,331	1,310	25.8%
2011	627	851,341	1,358	3.7%
2012	552	680,951	1,234	-9.1%
2013	479	756,064	1,578	27.9%
2014	581	807,295	1,389	-12.0%
2015	396	611,456	1,544	11.2%
2016	303	541,639	1,788	15.8%
2017	327	748,018	2,288	28.0%
2018	297	620,629	2,090	-8.7%

Med. Only Severity Trend Factor: 1.078 Source: Summary Exhibit (V-K)

#### Fitted= $1016.0620 \times e^{(0.0733*(YEAR-2008))}$



Sources:

(1) Exhibit VI-C-2

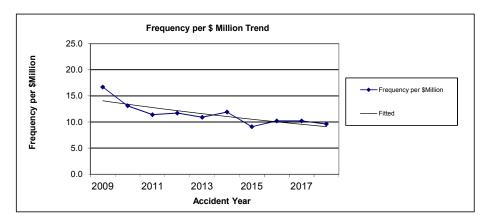
(2) Exhibit VI-C-3

#### Frequency Trend

	(1) Ultimate	(2)	(3)	(4)
		Loss	-	Annual
	Claim	Cost	Frequency	Average Loss
<u>Year</u>	<u>Counts</u>	<u>Premium</u>	per(\$M)	<u>Change</u>
2009	195	11,684,524	16.7	
2010	177	13,510,619	13.1	-21.6%
2011	189	16,535,220	11.4	-13.0%
2012	201	17,230,534	11.7	2.6%
2013	175	16,100,116	10.9	-6.8%
2014	290	24,369,728	11.9	9.2%
2015	186	20,448,272	9.1	-23.5%
2016	150	14,771,801	10.2	12.1%
2017	171	16,753,814	10.2	0.0%
2018	168	17,432,005	9.6	-5.9%

Frequency per \$Million Trend Factor: 0.962 Source: Summary Exhibit (V-K)

#### Fitted=14.7517 x e^(-0.0482\*(YEAR-2008))



#### Sources:

- (1) Exhibit V-I Col. 2
- (2) Exhibit X-B
- (3) (1) / (2) x 1,000,000
- (4) (Current Freq. / Prior Freq. -1.0) x 100'

#### Frequency Trend Net of Wage Trend

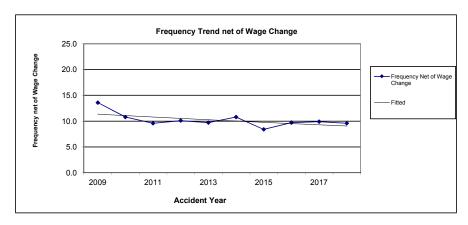
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Loss	Statewide	On	Loss Cost		Adjusted	Annual
	Cost	Average	2018	Premium	Claim	Frequency	Frequency
<u>Year</u>	<u>Premium</u>	Weekly Wage	Level	on 2018 Level	<u>Counts</u>	per(\$M)	Change
2009	11,684,524	836	1.226	14,325,226	195	13.6	
2010	13,510,619	845	1.213	16,388,381	177	10.8	-20.6%
2011	16,535,220	858	1.195	19,759,588	189	9.6	-11.1%
2012	17,230,534	888	1.154	19,884,036	201	10.1	5.2%
2013	16,100,116	917	1.118	17,999,930	175	9.7	-4.0%
2014	24,369,728	932	1.100	26,806,701	290	10.8	11.3%
2015	20,448,272	951	1.078	22,043,237	186	8.4	-22.2%
2016	14,771,801	978	1.048	15,480,847	150	9.7	15.5%
2017	16,753,814	995	1.030	17,256,428	171	9.9	2.1%
2018	17,432,005	1025	1.000	17,432,005	168	9.6	-3.0%

Frequency net of Wage Change Trend Factor:

0.985

Source: Summary Exhibit (V-K)

#### Fitted=11.6458 x e^(-0.0251\*(YEAR-2008))



#### Soures:

- (1) Exhibit X-B
- (2) Exhibit XII-D
- (3) 2018 is 1.000. Values for other years divided into 2018 value to determine factor
- (4) (1) x (3)
- (5) Exhibit VI-C-1
- (6) (5) / (4) \* 1,000,000
- (7) (Current Freq./Prior Freq.-1.0)x100

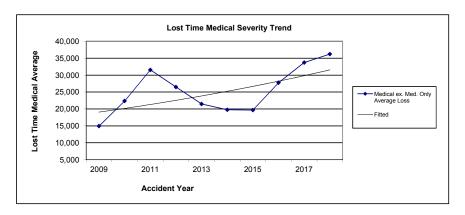
	(1)	(2)	(3)	(4)	(5)	(6)
		Med. Only				
	Ultimate	Ultimate	Ult. Med. On			Annual
	Medical Losses	Incurred	Lost Time	Claim	Average	Average Loss
<u>Year</u>	Incurred	Losses	<u>Claims</u>	<u>Counts</u>	Loss	<u>Change</u>
2009	3,397,971	488,067	2,909,904	195	14,923	
2010	4,695,625	732,331	3,963,294	177	22,391	50.0%
2011	6,816,013	851,341	5,964,672	189	31,559	40.9%
2012	6,001,026	680,951	5,320,075	201	26,468	-16.1%
2013	4,511,567	756,064	3,755,503	175	21,460	-18.9%
2014	6,536,992	807,295	5,729,697	290	19,758	-7.9%
2015	4,272,992	611,456	3,661,536	186	19,686	-0.4%
2016	4,709,375	541,639	4,167,736	150	27,785	41.1%
2017	6,515,137	748,018	5,767,119	171	33,726	21.4%
2018	6 705 823 *	620 629	6.085.194	148	36 221	7.4%

Lost Time Medical Severity Trend Factor:

Source: Summary Exhibit (V-K)

1.037

#### Fitted=18031.6766 x e^(0.0560\*(YEAR-2008))



#### Source:

- (1) Exhibit V-H,Page 2
- (2) Exhibit VI-C-3
- (3) (1)-(2)
- (4) Exhibit VI-C-1
- (5) (3)/(4)
- (6) (Current Avg. Loss /Prior Avg. Loss-1.0)x100

\* Note: Ultimate losses for 2018 reflect limitation on large claims, see Exhibit V-J

#### Coal Mine Compensation Rating Bureau Traumatic - Large Claim Capping Accident Year 2018

	Large Claim(s)								
		Reported			Reported				
Claim	Class	Incurred	Indemnity	Developed	Incurred	Medical	Developed	Developed	
<u>ID</u>	<u>Code</u>	<u>Indemnity</u>	<u>LDF</u>	<u>Indemnity</u>	<u>Medical</u>	<u>LDF</u>	<u>Medical</u>	<u>Total</u>	
49734	1001	1,008,419	2.0500	2,067,259	-	1.1792	-	2,067,259	
49769	1001	189,000	2.0500	387,450	750,000	1.1792	884,400	1,271,850	
49989	1001	637,664	2.0500	1,307,211	-	1.1792	-	1,307,211	
<u>50046</u>	1021	375,064	2.0500	768,881	1,000,000	1.1792	1,179,200	1,948,081	
Total		2,210,147		4,530,801	1,750,000		2,063,600	6,594,401	
Tota	al Develope	d on each clair	n is greater tha	n catastrophe limit	(\$1,250,000) so o	capping and all	ocation are nece	essary.	

Distribution of Reported Incurre	d Losses for Large (	Claim(s) betwee	n Indemnity and Medical
	Reported	Percent	
	<u>Incurred</u>	<u>Distribution</u>	
Indemnity	2,210,147	55.8%	
<u>Medical</u>	1,750,000	<u>44.2%</u>	
Total	3,960,147	100.0%	

		Indemnity Ca	pping	
	Reported		-	
	Incurred	Indemnity	Developed	
	<u>Indemnity</u>	<u>LDF</u>	<u>Indemnity</u>	
Total	5,566,332	2.0500	11,410,981	
<u>Large Claim(s)</u>	2,210,147	2.0500	4,530,801	
Total Excluding Large Claim(s)			6,880,180	
	Capped		Capped	
	Total	% Indemnity	Indemnity	
Large Claim(s)	5,000,000	55.8%	2,790,000	
Total Developed Indemr	nity with Large C	Claim(s) capped	9,670,180	

		Medical Ca	pping	
	Reported			
	Incurred	Medical	Developed	
	<u>Medical</u>	<u>LDF</u>	<u>Medical</u>	
Total	5,562,604	1.1792	6,559,423	
Large Claim(s)	1,750,000	1.1792	2,063,600	
Total Excluding Large Claim(s)			4,495,823	
	Capped		Capped	
	<u>Total</u>	% Medical	Medical	
Large Claim(s)	5,000,000	44.2%	2,210,000	
Total Developed Medic	cal with Large C	laim(s) capped	6,705,823	

Source: Total Reported Incurred from Exhibits VI-A-4 and VI-B-4 Loss Development Factors (LDFs) from V-C-1 and V-C-2 Large Claim data from CMCRB database

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PAB

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#### Traumatic Loss Trend Summary of Estimates

			Ests. 1&2	Ests. 3&4	Ests. 5&6	Ests. 7&8	Ests.9&10	Ests.11&12	Average	
V-I-1	Traditional	Indemnity	107.9%	104.4%	104.2%	109.6%	105.7%	105.7%	106.3%	Severity
	Moving Average	Indemnity	106.6%	104.7%	105.4%	108.6%	106.6%	107.9%	106.6%	Severity
									106.5%	Average
V-I-2	Traditional	Total Medical	111.0%	109.9%	108.8%	110.5%	109.1%	107.5%	109.5%	Severity
	Moving Average	Total Medical	109.7%	108.9%	110.3%	107.6%	106.3%	107.3%	108.4%	Severity
									109.0%	Average
V-I-3	Traditional	Medical Only	107.9%	106.6%	107.3%	109.1%	107.8%	108.8%	107.9%	Severity
	Moving Average	Medical Only	107.5%	107.9%	108.1%	107.2%	107.6%	107.7%	<u>107.7%</u>	Severity
									107.8%	Average
V-I-4	Traditional	Frequency	94.6%	96.4%	97.4%	94.4%	96.5%	97.7%	96.2%	Frequency
	Moving Average	Frequency	95.6%	96.9%	97.6%	94.6%	95.9%	96.5%	96.2%	<u>Frequency</u>
									96.2%	Average
V-I-5	Traditional	Frequency	96.8%	98.7%	99.8%	96.6%	98.8%	100.0%	98.5%	Frequency
	Moving Average	Frequency	97.9%	99.2%	99.8%	96.8%	98.2%	98.7%	98.4%	<u>Frequency</u>
									98.5%	Average
V-I-6	Traditional	Medical Ex. M.O.	108.1%	104.9%	102.8%	107.7%	103.8%	101.0%	104.7%	Severity
	Moving Average	Medical Ex. M.O.	105.1%	103.3%	104.2%	102.8%	100.2%	100.6%	102.7%	Severity
									103.7%	Average
			Average F	requency Inc	dication					
	Traditional	Trad Freq	94.5%	96.3%	97.4%	94.3%	96.4%	97.6%	96.1%	
	Moving Average	MA Freq	95.6%	96.8%	97.5%	94.5%	95.9%	96.4%	<u>96.1%</u> 96.1%	

Selected Frequency Factor <u>Selected Severity Factor</u> Composite Trend Factor	Indemnity 97.25% * 104.00% ** 101.10%	Medical 97.25% * 105.00% *** 102.10%	* Selected Frequency Trend - see Actuarial Report  ** Selected Indemity Severity Trend - see Actuarial Report  *** Selected Medical Severity Trend - see Actuarial Report
Approved 4-1-2019	101.4%	101.0%	
Selected 4-1-2020	101.1% ****	102.1% ****	**** Limited to a maximum change of +-3.0 points, when necessary.

## Traumatic Loss Trend Indemnity and Funeral Losses for All Classes Combined

Exhibit V-I Page 1 Estimates 01-06

#### Severity Trend

	(1)	(2)	(3)	(4) Annual	(5) 3-Year	(6) Annual
	Ultimate	Claim	Average	Average Loss	Moving	Mov. Avg.
<u>Year</u>	Losses	<u>Counts</u>	Loss	<u>Change</u>	<u>Average</u>	<u>Change</u>
2009	5,377,808	195	27,579			
2010	7,560,618	177	42,715	54.9%		
2011	8,678,253	189	45,917	7.5%	38,737	
2012	9,997,729	201	49,740	8.3%	46,124	19.1%
2013	7,822,913	175	44,702	-10.1%	46,786	1.4%
2014	12,551,905	290	43,282	-3.2%	45,908	-1.9%
2015	12,192,731	186	65,552	51.5%	51,179	11.5%
2016	9,481,246	150	63,208	-3.6%	57,347	12.1%
2017	10,507,390	171	61,447	-2.8%	63,402	10.6%
2018	9,670,180 *	168	57,561	-6.3%	60,739	-4.2%

Analysis performed on data for 2009 through 2018.	Geometric Average:	8.5%	6.6%	Ests.
	Regression Indication:	7.3%		1 & 2
	Selected:	7.9%	6.6%	
Analysis performed on data for 2010 through 2018.	Geometric Average:	3.8%	4.7%	Ests.
	Regression Indication:	5.0%		3 & 4
	Selected:	4.4%	4.7%	
Analysis performed on data for 2011 through 2018.	Geometric Average:	3.3%	5.4%	Ests.
	Regression Indication:	5.0%		5 & 6
	Selected:	4.2%	5.4%	

\* Note: Ultimate losses for 2018 reflect limitation on large claims, see Exhibit V-J

#### Sources:

- (1) Exhibit V-H page 1, Column (3)
- (2) Exhibit VI-C-1
- (4) (Current Avg. Loss / Prior Avg. Loss -1.0) x 100

94,774,736.500400

#### Traumatic Loss Trend Medical and Medical Only Losses for All Classes Combined

Exhibit V-I Page 2 Estimates 01-06

#### Severity Trend

	(1)	(2)	(3)	(4) Annual	(5) 3-Year	(6) Annual
	Ultimate	Claim	Average	Average Loss	Moving	Mov. Avg.
<u>Year</u>	<u>Losses</u>	<u>Counts</u>	<u>Loss</u>	<u>Change</u>	<u>Average</u>	<u>Change</u>
2009	3,397,971	664	5,117			
2010	4,695,625	736	6,380	24.7%		
2011	6,816,013	816	8,353	30.9%	6,617	
2012	6,001,026	753	7,969	-4.6%	7,567	14.4%
2013	4,511,567	654	6,898	-13.4%	7,740	2.3%
2014	6,536,992	871	7,505	8.8%	7,457	-3.7%
2015	4,272,992	582	7,342	-2.2%	7,248	-2.8%
2016	4,709,375	453	10,396	41.6%	8,414	16.1%
2017	6,515,137	498	13,083	25.8%	10,274	22.1%
2018	6,705,823 *	465	14,421	10.2%	12,633	23.0%

Analysis performed on data for 2009 through 2018.	Geometric Average:	12.2%	9.7%	Ests.
	Regression Indication:	9.7%		1 & 2
	Selected:	11.0%	9.7%	
Analysis performed on data for 2010 through 2018.	Geometric Average:	10.7%	8.9%	Ests.
	Regression Indication:	9.1%		3 & 4
	Selected:	9.9%	8.9%	
Analysis performed on data for 2011 through 2018.	Geometric Average:	8.1%	10.3%	Ests.
	Regression Indication:	9.4%		5 & 6
	Selected:	8.8%	10.3%	

\* Note: Ultimate losses for 2018 reflect limitation on large claims, see Exhibit V-J

#### Sources:

(1) Exhibit V-H page 2,Column (3)

(2) Exhibit VI-C-1 + Exhibit VI-C-2

(4) (Current Avg. Loss / Prior Avg. Loss -1.0) x 100

#### Traumatic Loss Trend Medical Only Losses for All Classes Combined

Exhibit V-I Page 3 Estimates 01-06

#### Severity Trend

	(1) Ultimate	(2) Ultimate	(3)	(4) Annual	(5) 3-Year	(6) Annual
	Claim	Incurred	Average	Average Loss	Moving	Mov. Avg.
<u>Year</u>	<u>Counts</u>	Losses	Loss	<u>Change</u>	<u>Average</u>	<u>Change</u>
2009	469	488,067	1,041			
2010	559	732,331	1,310	25.8%		
2011	627	851,341	1,358	3.7%	1,236	
2012	552	680,951	1,234	-9.1%	1,301	5.3%
2013	479	756,064	1,578	27.9%	1,390	6.8%
2014	581	807,295	1,389	-12.0%	1,400	0.7%
2015	396	611,456	1,544	11.2%	1,504	7.4%
2016	303	541,639	1,788	15.8%	1,574	4.7%
2017	327	748,018	2,288	28.0%	1,873	19.0%
2018	297	620,629	2,090	-8.7%	2,055	9.7%

Analysis performed on data for 2009 through 2018. Geometric Average:		8.1%	7.5%	Ests.
	Regression Indication:	7.6%		1 & 2
	Selected:	7.9%	7.5%	
Analysis performed on data for 2010 through 2018.	Geometric Average:	6.0%	7.9%	Ests.
	Regression Indication:	7.2%		3 & 4
	Selected:	6.6%	7.9%	
Analysis performed on data for 2011 through 2018.	Geometric Average:	6.4%	8.1%	Ests.
	Regression Indication:	8.2%		5 & 6
	Selected:	7.3%	8.1%	

#### Sources:

(1) Exhibit VI-C-2

(2) Exhibit VI-C-3

(4) (Current Avg. Loss / Prior Avg. Loss -1.0) x 100

## Traumatic Loss Trend Indemnity and Funeral Losses for All Classes Combined

Exhibit V-I Page 4 Estimates 01-06

#### Frequency Trend

	(1) Ultimate	(2) Loss	(3)	(4) Annual	(5) 3-Year	(6) Annual
	Claim	Cost	Frequency	Average Loss	Moving	Mov. Avg.
<u>Year</u>	<u>Counts</u>	<u>Premium</u>	per(\$M)	<u>Change</u>	<u>Average</u>	<u>Change</u>
2009	195	11,684,524	16.7			
2010	177	13,510,619	13.1	-21.6%		
2011	189	16,535,220	11.4	-13.0%	13.7	
2012	201	17,230,534	11.7	2.6%	12.1	-11.7%
2013	175	16,100,116	10.9	-6.8%	11.3	-6.6%
2014	290	24,369,728	11.9	9.2%	11.5	1.8%
2015	186	20,448,272	9.1	-23.5%	10.6	-7.8%
2016	150	14,771,801	10.2	12.1%	10.4	-1.9%
2017	171	16,753,814	10.2	0.0%	9.8	-5.8%
2018	168	17,432,005	9.6	-5.9%	10.0	2.0%

Analysis performed on data for 2009 through 2018.	Geometric Average:	-6.0%	-4.4%	Ests.
	Regression Indication:	-4.7%		1 & 2
	Selected:	-5.4%	-4.4%	
Analysis performed on data for 2010 through 2018.	Geometric Average:	-3.8%	-3.1%	Ests.
	Regression Indication:	-3.3%		3 & 4
	Selected:	-3.6%	-3.1%	
Analysis performed on data for 2011 through 2018.	Geometric Average:	-2.4%	-2.4%	Ests.
	Regression Indication:	-2.8%		5 & 6
	Selected:	-2.6%	-2.4%	

#### Sources:

- (1) Exhibit V-I-1 Col. 2
- (2) Exhibit X-B
- (3) (1) / (2) x 1,000,000
- (4) (Current Freq. / Prior Freq. -1.0) x 100'

#### Traumatic Loss Trend Indemnity and Funeral Losses for All Classes Combined

Exhibit V-I Page 5 Estimates 01-06

#### Frequency Trend Net of Wage Trend

	(1) Loss	(2) Statewide	(3) On	(4) Loss Cost	(5)	(6) Adjusted	(7) Annual	(8) 3-Year	(9) Annual
<u>Year</u>	Cost <u>Premium</u>	Average Weekly Wage	2018 Level	Premium on 2018 Level	Claim Counts	Frequency per(\$M)	Frequency Change	Moving <u>Average</u>	Mov. Avg. <u>Change</u>
2009	11,684,524	836	1.226	14,325,226	195	13.6			
2010	13,510,619	845	1.213	16,388,381	177	10.8	-20.6%		
2011	16,535,220	858	1.195	19,759,588	189	9.6	-11.1%	11.3	
2012	17,230,534	888	1.154	19,884,036	201	10.1	5.2%	10.2	-9.7%
2013	16,100,116	917	1.118	17,999,930	175	9.7	-4.0%	9.8	-3.9%
2014	24,369,728	932	1.100	26,806,701	290	10.8	11.3%	10.2	4.1%
2015	20,448,272	951	1.078	22,043,237	186	8.4	-22.2%	9.6	-5.9%
2016	14,771,801	978	1.048	15,480,847	150	9.7	15.5%	9.6	0.0%
2017	16,753,814	995	1.030	17,256,428	171	9.9	2.1%	9.3	-3.1%
2018	17,432,005	1025	1.000	17,432,005	168	9.6	-3.0%	9.7	4.3%

Analysis performed on data for 2009 through 2018.	Geometric Average:	-3.8%	-2.1% E	Ests.
	Regression Indication:	-2.5%	1	1 & 2
	Selected:	-3.2%	-2.1%	
Analysis performed on data for 2010 through 2018.	Geometric Average:	-1.5%	-0.8% E	Ests.
	Regression Indication:	-1.0%	3	3 & 4
	Selected:	-1.3%	-0.8%	
Analysis performed on data for 2011 through 2018.	Geometric Average:	0.0%	-0.2% E	Ests.
	Regression Indication:	-0.4%	5	5 & 6
	Selected:	-0.2%	-0.2%	

#### Sources:

- (1) Exhibit X-B
- (2) Exhibit XII-D
- (3) 2018 is 1.000. Values for other years divided into 2018 value to determine factor
- (4) (1)x(3)
- (5) Exhibit VI-C-1
- (6) (5) / (4) \* 1,000,000
- (7) (Current Freq./Prior Freq.-1.0)x100

## Traumatic Loss Trend Medical (excl. Medical Only Losses) for All Classes Combined

Exhibit V-I Page 6 Estimates 01-06

#### Severity Trend

	(1)	(2) Med. Only	(3)	(4)	(5)	(6)	(7)	(8)
	Ultimate	Ultimate	Ult. Med. On			Annual	3-Year	Annual
	Medical Losses	Incurred	Lost Time	Claim	Average	Average Loss	Moving	Mov. Avg.
<u>Year</u>	Incurred	Losses	<u>Claims</u>	<u>Counts</u>	Loss	<u>Change</u>	<u>Average</u>	<u>Change</u>
2009	3,397,971	488,067	2,909,904	195	14,923			
2010	4,695,625	732,331	3,963,294	177	22,391	50.0%		
2011	6,816,013	851,341	5,964,672	189	31,559	40.9%	22,958	
2012	6,001,026	680,951	5,320,075	201	26,468	-16.1%	26,806	16.8%
2013	4,511,567	756,064	3,755,503	175	21,460	-18.9%	26,496	-1.2%
2014	6,536,992	807,295	5,729,697	290	19,758	-7.9%	22,562	-14.8%
2015	4,272,992	611,456	3,661,536	186	19,686	-0.4%	20,301	-10.0%
2016	4,709,375	541,639	4,167,736	150	27,785	41.1%	22,410	10.4%
2017	6,515,137	748,018	5,767,119	171	33,726	21.4%	27,066	20.8%
2018	6,705,823 *	620,629	6,085,194	168	36,221	7.4%	32,577	20.4%

Analysis performed on data for 2009 through 2018.	Geometric Average:	10.4%	5.1%	Ests.
	Regression Indication:	5.8%		1 & 2
	Selected:	8.1%	5.1%	
Analysis performed on data for 2010 through 2018.	Geometric Average:	6.2%	3.3%	Ests.
	Regression Indication:	3.6%		3 & 4
	Selected:	4.9%	3.3%	
Analysis performed on data for 2011 through 2018.	Geometric Average:	2.0%	4.2%	Ests.
	Regression Indication:	3.6%		5 & 6
	Selected:	2.8%	4.2%	

#### Sources:

(1) Exhibit V-H,Page 2

(2) Exhibit VI-C-3

(3) (1)-(2)

(4) Exhibit VI-C-1

(5) (3)/(4)

(6) (Current Avg. Loss / Prior Avg. Loss-1.0)x100

\* Note: Ultimate losses for 2018 reflect limitation on large claims, see Exhibit V-J

## Traumatic Loss Trend Indemnity and Funeral Losses for All Classes Combined

Exhibit V-I Page 1 Estimates 07-12

### Severity Trend

	(1)	(2)	(3)	(4) Annual	(5) 3-Year	(6) Annual
	Ultimate	Claim	Average	Average Loss	Moving	Mov. Avg.
<u>Year</u>	<u>Losses</u>	<u>Counts</u>	Loss	<u>Change</u>	<u>Average</u>	<u>Change</u>
2009	5,377,808	195	27,579			
2010	7,560,618	177	42,715	54.9%		
2011	8,678,253	189	45,917	7.5%	38,737	
2012	9,997,729	201	49,740	8.3%	46,124	19.1%
2013	7,822,913	175	44,702	-10.1%	46,786	1.4%
2014	12,551,905	290	43,282	-3.2%	45,908	-1.9%
2015	12,192,731	186	65,552	51.5%	51,179	11.5%
2016	9,481,246	150	63,208	-3.6%	57,347	12.1%
2017	10,507,390	171	61,447	-2.8%	63,402	10.6%

Analysis performed on data for 2009 through 2017.	Geometric Average:	10.5%	8.6%	Ests.
	Regression Indication:	8.6%		7 & 8
	Selected:	9.6%	8.6%	
Analysis performed on data for 2010 through 2017.	Geometric Average:	5.3%	6.6%	Ests.
	Regression Indication:	6.1%		9 & 10
	Selected:	5.7%	6.6%	
Analysis performed on data for 2011 through 2017.	Geometric Average:	5.0%	7.9%	Ests.
	Regression Indication:	6.4%		11 & 12
	Selected:	5.7%	7.9%	

#### Sources:

(1) Exhibit V-H page 1, Column (3)

(2) Exhibit VI-C-1

(4) (Current Avg. Loss / Prior Avg. Loss -1.0) x 100

#### Traumatic Loss Trend Medical and Medical Only Losses for All Classes Combined

Exhibit V-I Page 2 Estimates 07-12

### Severity Trend

	(1)	(2)	(3)	(4) Annual	(5) 3-Year	(6) Annual
	Ultimate	Claim	Average	Average Loss	Moving	Mov. Avg.
<u>Year</u>	Losses	<u>Counts</u>	Loss	<u>Change</u>	<u>Average</u>	<u>Change</u>
2009	3,397,971	664	5,117			
2010	4,695,625	736	6,380	24.7%		
2011	6,816,013	816	8,353	30.9%	6,617	
2012	6,001,026	753	7,969	-4.6%	7,567	14.4%
2013	4,511,567	654	6,898	-13.4%	7,740	2.3%
2014	6,536,992	871	7,505	8.8%	7,457	-3.7%
2015	4,272,992	582	7,342	-2.2%	7,248	-2.8%
2016	4,709,375	453	10,396	41.6%	8,414	16.1%
2017	6,515,137	498	13,083	25.8%	10,274	22.1%

Analysis performed on data for 2009 through 2017.	Geometric Average:	12.4%	7.6%	Ests.
	Regression Indication:	8.5%		7 & 8
	Selected:	10.5%	7.6%	
Analysis performed on data for 2010 through 2017.	Geometric Average:	10.8%	6.3%	Ests.
	Regression Indication:	7.4%		9 & 10
	Selected:	9.1%	6.3%	
Analysis performed on data for 2011 through 2017.	Geometric Average:	7.8%	7.3%	Ests.
	Regression Indication:	7.2%		11 & 12
	Selected:	7.5%	7.3%	

#### Sources:

(1) Exhibit V-H page 2, Column (3)

(2) Exhibit VI-C-1 + Exhibit VI-C-2

(4) (Current Avg. Loss / Prior Avg. Loss -1.0) x 100

#### Traumatic Loss Trend Medical Only Losses for All Classes Combined

Exhibit V-I Page 3 Estimates 07-12

#### Severity Trend

	(1) Ultimate	(2) Ultimate	(3)	(4) Annual	(5) 3-Year	(6) Annual
	Claim	Incurred	Average	Average Loss	Moving	Mov. Avg.
<u>Year</u>	<u>Counts</u>	Losses	Loss	<u>Change</u>	<u>Average</u>	Change
2009	469	488,067	1,041			
2010	559	732,331	1,310	25.8%		
2011	627	851,341	1,358	3.7%	1,236	
2012	552	680,951	1,234	-9.1%	1,301	5.3%
2013	479	756,064	1,578	27.9%	1,390	6.8%
2014	581	807,295	1,389	-12.0%	1,400	0.7%
2015	396	611,456	1,544	11.2%	1,504	7.4%
2016	303	541,639	1,788	15.8%	1,574	4.7%
2017	327	748,018	2,288	28.0%	1,873	19.0%

Analysis performed on data for 2009 through 2017.	Geometric Average:	10.4%	7.2%	Ests.
	Regression Indication:	7.7%		7 & 8
	Selected:	9.1%	7.2%	
Analysis performed on data for 2010 through 2017.	Geometric Average:	8.3%	7.6%	Ests.
	Regression Indication:	7.2%		9 & 10
	Selected:	7.8%	7.6%	
Analysis performed on data for 2011 through 2017.	Geometric Average:	9.1%	7.7%	Ests.
	Regression Indication:	8.5%		11 & 12
	Selected:	8.8%	7.7%	

#### Sources:

(1) Exhibit VI-C-2

(2) Exhibit VI-C-3

(4) (Current Avg. Loss / Prior Avg. Loss -1.0) x 100

## Traumatic Loss Trend Indemnity and Funeral Losses for All Classes Combined

Exhibit V-I Page 4 Estimates 07-12

### Frequency Trend

	(1) Ultimate	(2) Loss	(3)	(4) Annual	(5) 3-Year	(6) Annual
	Claim	Cost	Frequency	Average Loss	Moving	Mov. Avg.
<u>Year</u>	<u>Counts</u>	<u>Premium</u>	per(\$M)	<u>Change</u>	<u>Average</u>	<u>Change</u>
2009	195	11,684,524	16.7			
2010	177	13,510,619	13.1	-21.6%		
2011	189	16,535,220	11.4	-13.0%	13.7	
2012	201	17,230,534	11.7	2.6%	12.1	-11.7%
2013	175	16,100,116	10.9	-6.8%	11.3	-6.6%
2014	290	24,369,728	11.9	9.2%	11.5	1.8%
2015	186	20,448,272	9.1	-23.5%	10.6	-7.8%
2016	150	14,771,801	10.2	12.1%	10.4	-1.9%
2017	171	16,753,814	10.2	0.0%	9.8	-5.8%

Analysis performed on data for 2009 through 2017.	Geometric Average:	-6.0%	-5.4%	Ests.
	Regression Indication:	-5.1%		7 & 8
	Selected:	-5.6%	-5.4%	
Analysis performed on data for 2010 through 2017.	Geometric Average:	-3.5%	-4.1%	Ests.
	Regression Indication:	-3.5%		9 & 10
	Selected:	-3.5%	-4.1%	
Analysis performed on data for 2011 through 2017.	Geometric Average:	-1.8%	-3.5%	Ests.
	Regression Indication:	-2.8%		11 & 12
	Selected:	-2.3%	-3.5%	

#### Sources:

(1) Exhibit V-I-1 Col. 2

(2) Exhibit X-B-1

(3) (1) / (2) x 1,000,000

(4) (Current Freq. / Prior Freq. -1.0) x 100'

#### Traumatic Loss Trend Indemnity and Funeral Losses for All Classes Combined

Exhibit V-I Page 5 Estimates 07-12

#### Frequency Trend net of Wage Trend

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Loss	Statewide	On	Loss Cost		Adjusted	Annual	3-Year	Annual
	Cost	Average	2018	Premium	Claim	Frequency	Frequency	Moving	Mov. Avg.
<u>Year</u>	<u>Premium</u>	Weekly Wage	Level	on 2018 Level	<u>Counts</u>	<u>per(\$M)</u>	<u>Change</u>	<u>Average</u>	<u>Change</u>
2009	11,684,524	836	1.226	14,325,226	195	13.6			
2010	13,510,619	845	1.213	16,388,381	177	10.8	-20.6%		
2011	16,535,220	858	1.195	19,759,588	189	9.6	-11.1%	11.3	
2012	17,230,534	888	1.154	19,884,036	201	10.1	5.2%	10.2	-9.7%
2013	16,100,116	917	1.118	17,999,930	175	9.7	-4.0%	9.8	-3.9%
2014	24,369,728	932	1.100	26,806,701	290	10.8	11.3%	10.2	4.1%
2015	20,448,272	951	1.078	22,043,237	186	8.4	-22.2%	9.6	-5.9%
2016	14,771,801	978	1.048	15,480,847	150	9.7	15.5%	9.6	0.0%
2017	16,753,814	995	1.030	17,256,428	171	9.9	2.1%	9.3	-3.1%

Analysis performed on data for 2009 through 2017.	Geometric Average:	-3.9%	-3.2% Ests.
	Regression Indication:	-2.9%	7 & 8
	Selected:	-3.4%	-3.2%
Analysis performed on data for 2010 through 2017.	Geometric Average:	-1.2%	-1.8% Ests.
	Regression Indication:	-1.2%	9 & 10
	Selected:	-1.2%	-1.8%
Analysis performed on data for 2011 through 2017.	Geometric Average:	0.5%	-1.3% Ests.
	Regression Indication:	-0.5%	11 & 12
	Selected:	0.0%	-1.3%

#### Source:

- (1) Exhibit X-B
- (2) Exhibit XII-D
- (3) See Exhibit V-I-5 Estimates 01-06.
- (4) (1)x(3) (5) Exhibit VI-C-1
- (6) (5) / (4) \* 1,000,000
- (7) (Current Freq./Prior Freq.-1.0)x100

#### Traumatic Loss Trend Medical (excl. Medical Only Losses) for All Classes Combined

Exhibit V-I Page 6 Estimates 07-12

#### Severity Trend

	(1)	(2) Med. Only	(3)	(4)	(5)	(6)	(7)	(8)
	Ultimate	Ultimate	Ult. Med. On			Annual	3-Year	Annual
	Medical Losses	Incurred	Lost Time	Claim	Average	Average Loss	Moving	Mov. Avg.
<u>Year</u>	<u>Incurred</u>	Losses	<u>Claims</u>	<u>Counts</u>	Loss	<u>Change</u>	<u>Average</u>	<u>Change</u>
2009	3,397,971	488,067	2,909,904	195	14,923			
2010	4,695,625	732,331	3,963,294	177	22,391	50.0%		
2011	6,816,013	851,341	5,964,672	189	31,559	40.9%	22,958	
2012	6,001,026	680,951	5,320,075	201	26,468	-16.1%	26,806	16.8%
2013	4,511,567	756,064	3,755,503	175	21,460	-18.9%	26,496	-1.2%
2014	6,536,992	807,295	5,729,697	290	19,758	-7.9%	22,562	-14.8%
2015	4,272,992	611,456	3,661,536	186	19,686	-0.4%	20,301	-10.0%
2016	4,709,375	541,639	4,167,736	150	27,785	41.1%	22,410	10.4%
2017	6,515,137	748,018	5,767,119	171	33,726	21.4%	27,066	20.8%

Analysis performed on data for 2009 through 2017.	Geometric Average:	10.7%	2.8%	Ests.
	Regression Indication:	4.6%		7 & 8
	Selected:	7.7%	2.8%	
Analysis performed on data for 2010 through 2017.	Geometric Average:	6.0%	0.2%	Ests.
	Regression Indication:	1.5%		9 & 10
	Selected:	3.8%	0.2%	
Analysis performed on data for 2011 through 2017.	Geometric Average:	1.1%	0.6%	Ests.
	Regression Indication:	0.8%		11 & 12
	Selected:	1.0%	0.6%	

#### Source:

- (1) Exhibit V-H,Page 2
- (2) Exhibit VI-C-3
- (3) (1)-(2) (4) Exhibit VI-C-1
- (5) (3)/(4)
- (6) (Current Avg. Loss /Prior Avg. Loss-1.0)x100

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#### Coal Mine Compensation Rating Bureau **Traumatic Loss Development** Incurred Indemnity and Funeral Losses for All Classes Combined

A. Indemnity Reported Incurred Losses as of 04/30/19 Report 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2016 6.865.290 5,169,557 3,404,097 4.478.660 5,436,836 4.367.449 4.077.968 6,150,319 3.325.544 2.447.080 3.188.490 3,724,530 3.455.344 7,192,624 6.961.079 4,871,955 8.831.126 7.495.224 4.616.566 3.705.402 3.275.884 5.594.328 3.669.341 14.886.283 10.132.595 9.862.300 7,204,997 6.425.692 5.685.213 6.056.207 7.551.263 8,904,201 6.352.445 6,450,455 9,269,896 5,595,218 5,094,625 6,615,460 4,426,812 4,704,074 6.714.362 6.826.563 6,561,596 11,723,305 9,306,469 7.983.656 19,319,350 10,822,307 7,184,304 6,107,512 10,301,194 5,998,029 7.346.985 11,330,911 10,812,980 7,650,302 6,887,906 7,965,255 10,824,370 6,965,973 7,304,561 6,026,129 8.947.874 5,084,862 5,837,644 8,225,491 8,319,223 11,781,410 8,661,045 21,058,150 11,321,620 10,935,657 7,955,452 7,644,338 7,314,026 7,362,001 8,490,153 11,966,090 7,287,256 7,268,321 12,018,140 5,597,263 6,053,552 9,233,530 5,276,335 6,918,124 8,373,419 9,121,284 7,461,258 12,108,278 11,602,180 21.755.213 12.031.334 11.473.813 8,698,833 8.242.894 7.591.552 7.291.553 8,760,507 12,323,050 8.286.573 7.374.171 12.453.149 5.496.933 6.217.757 9.406.949 5.433.501 7,301,176 9.293.673 7.695.409 12,255,326 8,616,232 20.495.133 12.009.191 12,045,582 8.527.476 8.275.893 7.679.135 7.454.081 8.994.827 13.133.004 8.109.584 7.418.021 11.984.386 5.215.101 6.349.621 9.432.764 5.295.524 7.158.740 8.635.331 9.459.392 7,652,267 12,001,044 11,985,455 8,464,405 8,429,042 7,685,857 7,462,274 8,879,879 12,772,686 8,140,325 7,469,216 12,178,272 5,237,407 6,471,573 9,542,759 5,295,524 7,274,640 8,518,115 9,796,893 12,057,750 8,453,559 8,693,906 7,498,081 6,933,809 9,453,964 21,125,316 11,831,342 8,382,835 7,718,721 7,475,918 12,539,319 7,865,421 12,484,769 5,251,578 5,295,524 7,246,831 8,518,112 20,681,047 11,903,088 12,181,640 8,385,552 8,467,821 7,754,976 7,486,544 8,481,353 12,455,797 7,459,231 7,539,604 12,600,820 5,372,852 6,720,431 9,672,629 5,295,524 7,433,505 10 20,095,543 11,956,190 12,047,901 8,461,485 8,565,347 8,091,638 7,480,132 8,515,273 7,494,451 7,586,354 12,368,018 5,948,585 6,652,402 12,228,895 9,452,432 5,295,724 11 20,328,244 11,961,066 12,121,809 8.504.790 8.647.604 8.094.480 7,481,252 8.549.118 12.023.866 7,400,303 7.633.071 12.470.444 6.000.946 6.693.877 9.539.005 12 20,479,299 11,959,550 12,194,216 8,674,576 8,654,986 8,095,907 7,481,862 8,582,610 12,101,118 7,425,395 7,603,806 12,133,479 5,875,552 7,052,471 13 20.635.147 11.968.738 12.323.984 8,712,300 8.662.379 8.054.458 7,481,735 8,612,926 12.053.898 7,450,178 7.631.230 12.176.584 5.890.328 20.796.338 11.976.248 12.373.446 8.797.458 8.760.619 8.050.069 7.481.735 8,419,199 11.535.171 7,474,462 7.660.556 12.084.066 8,433,117 15 20.955.578 12.153.996 12.414.145 8.824.907 8.763.703 8.050.069 7.481.735 11.541.679 7,498,496 7.687.823 12,454,657 8,629,585 8,763,787 8,431,001 16 21.238.443 12.270.702 8.050.069 7.481.735 11.531.779 7.522.284 17 20,549,947 12,278,302 12,494,644 8.640.604 8.764.731 8,050,069 7,481,735 8,471,584 11,543,628 18 20,658,968 12,305,704 12,534,389 8,660,130 8,767,395 8.050.069 7,481,735 8,485,139 19 20.766.504 12.302.583 12.577.856 8.797.616 8.808.505 8 050 069 7,481,735 20 20,860,130 12,309,663 12,617,517 8,812,465 8.772.260 8.050.069 B. Act 57 Indemnity Law Adjusment Factors 0.8247 0.8247 0.8871 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1 0000 1.0000 1 0000 1 0000 1 0000 1 0000 1.0000 1 0000 1.0000 1.0000 1.0000 1.0000 1 0000 0.8247 0.8247 0.8871 1 0000 1 0000 1 0000 1 0000 1 0000 1 0000 1 0000 1 0000 1 0000 1 0000 1 0000 1 0000 1 0000 1 0000 1 0000 1 0000 1 0000 1 0000 1 0000 0.8247 0.8247 0.8871 1 0000 1 0000 1 0000 1 0000 1 0000 1 0000 1 0000 1 0000 1 0000 1 0000 1 0000 1 0000 1 0000 1 0000 1 0000 1 0000 1 0000 1 0000 1 0000 0.8247 0.8871 1.0000 1.0000 1.0000 1.0000 0.8247 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 0.8247 0.8247 0.8871 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 0.8247 0.8247 0.8871 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 0.8247 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1 0000 0.8247 0.8871 1.0000 1.0000 1.0000 0.8247 0.8247 0.8871 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 0.8247 0.8247 0.8871 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 0.8247 0.8247 0.8871 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 11 0.8247 0.8247 0.8871 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 Act 57 Effective Date 12 1.0000 0.8247 0.8247 0.8871 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 (b) Accident Year 1996 (8-23-96) 13 0.8247 0.8247 0.8871 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 Act 57 Effect 14 0.8247 0.8247 0.8871 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 Pre 17 53% 15 0.8247 0.8247 0.8871 1.0000 1.0000 1.0000 1 0000 1.0000 1.0000 1.0000 1.0000 0.00% Post 1996 Avg 16 0.8247 0.8247 0.8871 1.0000 1.0000 1 0000 1 0000 1.0000 1.0000 1.0000 11.29% 17 0.8247 0.8247 0.8871 1.0000 1.0000 1.0000 1 0000 1.0000 1.0000 18 0.8247 0.8247 0.8871 1.0000 1.0000 1.0000 1 0000 1.0000 Complement: 19 0.8247 0.8247 0.8871 1 0000 1 0000 1 0000 1 0000 20 0.8871 0.8247 0.8247 1 0000 1 0000 1 0000 C. Indemnity Incurred Losses Adjusted to Act 57 Law Level as of 04/30/19 7,283,000 6,181,000 6,090,000 5,169,557 3,404,097 4,478,660 4,367,449 4,077,968 6,150,319 3,325,544 3,275,884 5,594,328 2,447,080 3,188,490 3,669,341 3,455,344 7,192,624 6,961,079 4 871 955 4.616.566 3.705.402 5.436.836 3.724.530 12,277,000 8 356 000 8 749 000 7,204,997 6 425 692 5,685,213 6,056,207 7,551,263 8,904,201 6,352,445 6,450,455 9,269,896 5,595,218 5,094,625 6,615,460 4,426,812 4,704,074 6,714,362 6,826,563 6,561,596 11,723,305 9,306,469 7 983 656 15.933.000 8.925.000 9.592.000 7,650,302 7.184.304 6.107.512 6.887.906 7.965.255 10.824.370 6.965.973 7.304.561 10.301.194 5.998.029 6.026.129 8.947.874 5.084.862 5.837.644 8.225.491 8.319.223 7.346.985 11,781,410 11.330.911 8.661.045 17.367.000 9.337.000 9.701.000 7.955.452 7.644.338 7.314.026 7.362.001 8.490.153 11,966,090 7.287.256 7,268,321 12.018.140 5.597.263 6.053.552 9.233.530 5.276.335 6.918.124 8.373.419 9.121.284 7.461.258 12.108.278 11.602.180 8,698,833 8,760,507 7,301,176 17.942.000 9.922.000 10.178.000 8.242.894 7.591.552 7.291.553 12.323.050 8.286.573 7.374.171 12.453.149 5.496.933 6.217.757 9,406,949 5.433.501 8.616.232 9.293.673 7.695.409 12.255.326 9,904,000 8,527,476 8,275,893 8,994,827 7,418,021 11,984,386 6,349,621 7,158,740 16.902.000 10.686.000 7.679.135 7.454.081 13.133.004 8.109.584 5.215.101 9,432,764 5.295.524 8.635.331 9.459.392 7.652.267 9,897,000 10,632,000 7,685,857 7,462,274 8,879,879 12,772,686 7,469,216 12,178,272 5,237,407 6,471,573 5,295,524 7,274,640 17.087.000 8.464.405 8.429.042 8.140.325 9.542,759 8.518.115 9.796.893 17,422,000 9,757,000 10,696,000 8,453,559 8,382,835 7,718,721 7,475,918 8,693,906 12,539,319 7,865,421 7,498,081 12,484,769 5,251,578 6,933,809 9,453,964 5.295.524 7,246,831 8.518.112

Note: Reported Losses times Act 57 factors equals Indemnity Incurred Losses on Act 57 level

Source: A. CMCRB Database as of 04/30/19 - Validated 08/06/19 B. Act 57 Indemnity Law Factor of 0.8247, 0.8871 (1996) and 1.000

C. A times B equals C.

7,433,505

17,056,000

16.765.000

16.948.000

10 16.573.000

12 16.889.000

14 17 151 000

18 17 037 000

13 17 018 000

15

9.816.000 10.806.000

9 864 000 10 753 000

9 863 000 10 817 000

9.871.000 10.933.000

10.688.000

10 974 000

11.013.000

11.049.000

11.084.000

11,119,000

9.860.000

9 877 000

10.126.000

10.149.000

19 17.126.000 10.146.000 11.158.000

20 17.203.000 10.152.000 11.193.000

17 282 000 10 023 000

16 17.515.000 10.120.000

8.385.552

8.461.485

8 504 790

8 674 576

8 712 300

8 797 458

8 824 907

8.629.585

8.640.604

8.660,130

8.797.616

8.812.465

8.467.821

8 565 347

8 647 604

8 654 986

8 662 379

8 760 619

8 7 6 3 7 0 3

8.763.787

8.764.731

8.767.395

8.808.505

8.772.260

7.754.976

8 091 438

8 094 480

8 095 907

8 054 458

8 050 069

8.050.069

8.050.069

8.050.069

8.050.069

8.050.069

8.050.069

7,486,544

7.480.132

7 481 252

7 481 862

7 481 735

7 481 735

7 481 735

7.481.735

7.481.735

7.481.735

7.481.735

8.481.353

8 515 273

8 419 199

8 433 117

8.431.001

8.471.584

8.485.139

12.455.797

12 228 895

11 535 171

11 541 679

11.531.779

11.543.628

8 549 118 12 023 866

8 582 610 12 101 118

8 612 926 12 053 898

7.459.231

7 494 451

7 400 303

7,425,395

7 450 178

7 474 462

7 498 496

7.522.284

7.539.604 12.600.820

7 633 071 12 470 444

7 603 806 12 133 479

7 631 230 12 176 584

12 368 018

12 084 066

7 586 354

7 660 556

7 487 823

5 372 852

5 948 585

6 000 946

5 875 552

5.890.328

6.720.431

6.652.402

6 693 877

7.052.471

9.672.629

9 452 432

9 539 005

5.295.524

5.295.724

## Coal Mine Compensation Rating Bureau Traumatic Loss Development Indemnity and Funeral Losses for All Classes Combined

Report 1994 1995 1996 1997 1998 2000 2001 2002 2003 2004 2005 2009 2010 2014 2018 7,283,000 6,181,000 5,169,557 3,404,097 3,705,402 4,478,660 5,436,836 4,367,449 4,077,968 6,150,319 3,325,544 3,275,884 5,594,328 2,447,080 3,188,490 3,669,341 3,724,530 3,455,344 7,192,624 6,961,079 4,871,955 5,763,567 5,566,332 6,090,000 4,616,566 12,277,000 8.749.000 7,204,997 6,425,692 5,685,213 6,056,207 7,551,263 8,904,201 6,352,445 6,450,455 9,269,896 5,595,218 5,094,625 6,615,460 4,426,812 4,704,074 6.714.362 6,826,563 6.561.596 11,723,305 9,306,469 7,983,656 8.356.000 8.255.335 15,933,000 8.925.000 9.592.000 7,650,302 7.184.304 6.107.512 6,887,906 7.965.255 10.824.370 6,965,973 7.304.561 10,301,194 5.998.029 6,026,129 8.947.874 5.084.862 5.837.644 8,225,491 8.319.223 7.346.985 11.781.410 11.330.911 8,661,045 17.367.000 9.337.000 9.701.000 7.955.452 7.644.338 7.314.026 7,362,001 8.490.153 11.966.090 7.287.256 7.268.321 12.018.140 5.597.263 6.053.552 9.233.530 5.276.335 6.918.124 8.373.419 9.121.284 7.461.258 12.108.278 11.602.180 17,942,000 9,922,000 10,178,000 8,698,833 8,242,894 7,591,552 7,291,553 8,760,507 12,323,050 8,286,573 7,374,171 12,453,149 5,496,933 6,217,757 9,406,949 5,433,501 7,301,176 8,616,232 9,293,673 7,695,409 12,255,326 11,984,386 7,158,740 16,902,000 9,904,000 10,686,000 8,527,476 8,275,893 7,679,135 7,454,081 8,994,827 13,133,004 8,109,584 7,418,021 5,215,101 6,349,621 9,432,764 5,295,524 8,635,331 9,459,392 7,652,267 9,897,000 10,632,000 8,429,042 12,178,272 7,274,640 17,087,000 8,464,405 7,685,857 7,462,274 8,879,879 12,772,686 8,140,325 7,469,216 5,237,407 6,471,573 9,542,759 5,295,524 8,518,115 9,796,893 10,696,000 8,453,559 8,382,835 7,718,721 7,475,918 8,693,906 12,539,319 7,865,421 7.498.081 12,484,769 5,251,578 6,933,809 9.453.964 5,295,524 7,246,831 17,422,000 9,757,000 8,518,112 9 17,056,000 9,816,000 10,806,000 8,385,552 8,467,821 7,754,976 7,486,544 8,481,353 12,455,797 7,459,231 7,539,604 12,600,820 5,372,852 6,720,431 9,672,629 5,295,524 7,433,505 10 16,573,000 9.860.000 10.688.000 8.461.485 8.565.347 8.091.638 7,480,132 8,515,273 12,228,895 7.494.451 7.586.354 12.368.018 5 9 4 8 5 8 5 6,652,402 9,452,432 5,295,724 16,765,000 9.864.000 10.753.000 8.504.790 8.647.604 8.094.480 7.481.252 8 5/9 118 12,023,866 7.400.303 7.633.071 12.470.444 6.000.946 6.693.877 9,539,005 12 16.889.000 9.863.000 10.817.000 8.674.576 8.654.986 8.095.907 7.481.862 8.582.610 12.101.118 7.425.395 7.603.806 12.133.479 5.875.552 7,052,471 17.018.000 9.871.000 10.933.000 8.712.300 8.662.379 8.054.458 7.481.735 8.612.926 12.053.898 7.450.178 7.631.230 12.176.584 5.890.328 14 17.151.000 9.877.000 10.976.000 8.797.458 8.760.619 8.050.069 7.481.735 8.419.199 11.535.171 7.474.462 7,660,556 12,084,066 1.5 17.282.000 10.023.000 11.013.000 8.824.907 8.763.703 8.050.069 7.481.735 8.433.117 11.541.679 7.498.496 7.687.823 7.481.735 16 17.515.000 10.120.000 11.049.000 8.629.585 8.763.787 8.050.069 8.431.001 11.531.779 7.522.284 8.764.731 8.050.069 7.481.735 8.471.584 17 16.948.000 10.126.000 11.084.000 8.640.604 11.543.628 18 17,037,000 10,149,000 11,119,000 8,660,130 8,767,395 8,050,069 7,481,735 8,485,139 8,797,616 8,050,069 19 17,126,000 10,146,000 11,158,000 8,808,505 7,481,735 20 17,203,000 10,152,000 11,193,000 8,812,465 8.772.260 8.050.069 B. Effect of Claim Settlement Levels Only (Losses adjusted by Act 57 Law Adj. Factors and Claim Settlement Levels (Exhibit VI-A, page 3) divided by Losses adjusted by Act 57 Law Adj. Factors only (Exhibit VI-A, page 1)) 1.0227 1.0000 1.0450 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0485 1.0677 1.0000 1.0461 1.0727 1.0902 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0691 1.0971 1.1071 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0922 1.1152 1.1183 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.1094 1.1273 1.1241 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 Selected Years 11 to 20 1.1209 1.1334 1.1273 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 Selected Years 0 to 10 Claim Settlement Level Addititives 1.1267 1.1395 1.1273 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 Claim Settlement Level Addititves 14th Last +1.2% per year 1.1324 1.1455 1.1272 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 9th Last 10 1.0000 +2.0% per year 13th Last +1.2% per year 1.1347 1.1480 1.1273 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 8th Last +2.0% per year 12th Last +1.2% per year 1.0000 1.1371 1.1491 1.1273 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 7th Last +2.0% per year 11th Last +1.2% per year +0.9% per year 1.1382 1.1491 1.1272 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 6th Last +2.0% per year 10th Last 1.1382 1.1491 1.1273 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 5th Last +1.5% per year 9th Last +0.6% per year 1.1382 1.1492 1.1272 1.0000 Example: 1995 (2) 0.8447 (Page 3 15 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 4th Last +1.0% per year 8th Last +0.3% per year 1.1383 1.1491 1.1272 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 divided by 0.8247 +0.5% per year 7th Last 16 1.0000 3rd Last +0.2% per year 1.1382 1.1491 1.1273 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 2nd Last +0.5% per year 6th Last +0.2% per year 18 1.1383 1.1491 1.1273 1.0000 1.0000 1.0000 1.0000 1 0000 +0.5% ner vear 1st Last 5th Last +0.2% per vear 1 1491 1 1273 1 0000 +0.1% per vear 19 1 1383 1 0000 1 0000 1 0000 4th Last 1.0000 +0.0% per year 20 1 1382 1 1491 1 1273 1 0000 1 0000 3rd Last +0.0% per vear 2nd Last C. Indemnity Incurred Losses Adjusted to Act 57 Law Level and Claim Settlement Levels as of 04/30/19 1st Last +0.0% per vear 7.283.000 6.181.000 6.228.000 5.169.557 4.616.566 3 404 097 3 705 402 4 478 660 5 436 836 4 367 449 4 077 968 6 150 319 3 325 544 3 275 884 5 594 328 2 447 080 3 188 490 3 669 341 3 724 530 3 455 344 7 192 624 6 961 079 5 763 567 12 277 000 8 559 000 9 143 000 7 204 997 6 425 692 5 685 213 6.056.207 7 551 263 8 904 201 6 352 445 6 450 455 9 269 896 5 595 218 5 094 625 6 615 460 4 426 812 4 704 074 6 714 362 6.826.563 6 561 596 11 723 305 9 306 469 7 983 656 8 255 335 16 300 000 9.358.000 10.241.000 7 650 302 7 184 304 6 107 512 6 887 906 7 965 255 10.824.370 6 965 973 7 304 561 10 301 194 5 998 029 6 026 129 8 947 874 5 084 862 5 837 644 8 225 491 8 319 223 7 346 985 11 781 410 11 330 911 8.661.045 18 167 000 10 016 000 10 576 000 7 955 452 7 644 338 7 314 026 7.362.001 8 490 153 11 966 090 7 287 256 7 268 321 12 018 140 5 597 263 6.053.552 9 233 530 5 276 335 6 9 1 8 1 2 4 8 373 419 9 121 284 7 461 258 12 108 278 11 602 180 7.301.176 5 19.182.000 10.885.000 11.268.000 8.698.833 8.242.894 7.591.552 7.291.553 8.760.507 12.323.050 8.286.573 7.374.171 12.453.149 5.496.933 6.217.757 5.433.501 9.293.673 7.695.409 9,406,949 8.616.232 12.255.326 18.460.000 11.045.000 11.950.000 8.527.476 8.275.893 7.679.135 7.454.081 8.994.827 13.133.004 8.109.584 7.418.021 11.984.386 5.215.101 6.349.621 9.432.764 5.295.524 7.158.740 8.635.331 9.459.392 7.652.267 11,951,000 8,879,879 12,178,272 6,471,573 18,957,000 11,157,000 8,464,405 8.429.042 7.685.857 7.462.274 12.772.686 8.140.325 7.469.216 5.237.407 9.542.759 5.295.524 7.274.640 8.518.115 9.796.893 19,529,000 11,059,000 12,057,750 8,453,559 8,382,835 7,718,721 7,475,918 8,693,906 12,539,319 7,865,421 7,498,081 12,484,769 5,251,578 6,933,809 9,453,964 5,295,524 7,246,831 8.518.112 19.217.000 11,185,000 12,181,640 8.385.552 8,467,821 7.754.976 7,486,544 8,481,353 12.455.797 7,459,231 7,539,604 12,600,820 5.372.852 6,720,431 9.672.629 5,295,524 7.433.505 10 18.768.000 11.295.000 12.047.901 8.461.485 8.565.347 8.091.638 7,480,132 8.515.273 12.228.895 7,494,451 7.586.354 12.368.018 5.948.585 6.652.402 9.452.432 5.295.724 11 19.024.000 11.324.000 12.121.809 8,504,790 8.647.604 8.094.480 7.481.252 8.549.118 12.023.866 7,400,303 7.633.071 12,470,444 6.000.946 6.693.877 9.539.005 19,204,000 11,334,000 12,194,216 7,425,395 7,603,806 8.674.576 8.654.986 8.095.907 7.481.862 8.582.610 12.101.118 12.133.479 5.875.552 7.052.47 13 19,370,000 11,343,000 12,323,984 8,712,300 8,662,379 8,054,458 7,481,735 8,612,926 12,053,898 7,450,178 7,631,230 12,176,584 5.890.328 7,660,556 19,522,000 11,350,000 12,373,446 8.797.458 8,760,619 8.050.069 7,481,735 8,419,199 11.535.171 7,474,462 12.084.066 15 19.671.000 11.518.000 12.414.145 8.824.907 8.763.703 8 050 069 7,481,735 8.433.117 11.541.679 7,498,496 7.687.823 19.937.000 11.629.000 12.454.657 8.629.585 8.763.787 8 050 069 7.481.735 8.431.001 11.531.779 7.522.284 17 19 290 000 11 636 000 12 494 644 8 640 604 8 764 731 8 050 069 7 481 735 8.471.584 11.543.628 Source: A. Exhibit VI-A, p. 1 (C) 18 19.393.000 11.662.000 12.534.389 8.660.130 8.767.395 8 050 069 7.481.735 8.485.139 B. Section C / Section A

C. Exhibit VI-A, p. 3 (C)

8,797,616

8,812,465

8,808,505

8.772.260

8.050.069

8.050.069

7,481,735

19 19.494.000 11.659.000 12.577.856

20 19,581,000 11,666,000 12,617,517

A. Indemnity Incurred Losses Adjusted to Act 57 Law Level as of 04/30/19

#### Coal Mine Compensation Rating Bureau Traumatic Loss Development Incurred Indemnity and Funeral Losses for All Classes Combined

A. Indemnity Reported Incurred Losses as of 04/30/19 1994 1995 1996 1997 1998 1999 2000 2001 2009 2013 2018 2002 2003 2004 2005 2006 2007 2008 2010 2011 2012 2014 2015 2016 2017 Report 8.831.126 7.495.224 6.865,290 5.169.557 4.616.566 3,404,097 3,705,402 4,478,660 5.436.836 4.367.449 4.077.968 6.150.319 3.325.544 3.275.884 5.594.328 2.447.080 3,188,490 3,669,341 3.724.530 3,455,344 7.192.624 6.961.079 4.871.955 5,763,567 5.566.332 7.551.263 9.269.896 4.704.074 11.723.305 14.886,283 10.132.595 9.862.300 7.204.997 6.425.692 5.685.213 6.056,207 8.904.201 6.352.445 6,450,455 5.595.218 5.094.625 6,615,460 4.426.812 6.714.362 6.826.563 6.561.596 9.306.469 7.983.656 8.255.335 19.319.350 10.822.307 10,812,980 7,650,302 7,184,304 6,107,512 6,887,906 7,965,255 10,824,370 6.965.973 7.304.561 10,301,194 5,998,029 6,026,129 8.947.874 5,084,862 5,837,644 8,225,491 8,319,223 7.346.985 11,781,410 11,330,911 8,661,045 21.058.150 11.321.620 10.935.657 7.955.452 7.644.338 7.314.026 7.362.001 8.490.153 11,966,090 7.287.256 7.268.321 12.018.140 5.597.263 6.053.552 9.233.530 5.276.335 6.918.124 8.373.419 9.121.284 7.461,258 12.108,278 11.602,180 8,698,833 8,242,894 7,591,552 7,291,553 8,760,507 12,323,050 7,374,171 12,453,149 5,496,933 6,217,757 7,301,176 7,695,409 5 21.755.213 12.031.334 11.473.813 8.286.573 9,406,949 5.433.501 8.616.232 9,293,673 12.255.326 8.527.476 8.275.893 7.679.135 8.994.827 13.133.004 8.109.584 7.418.021 11.984.386 9.432.764 7.158.740 8.635.331 20.495.133 12.009.191 12.045.582 7.454.081 5.215.101 6.349.621 5.295.524 9.459.392 7.652.267 20.718.662 12.001.044 11.985.455 8.464.405 8.429.042 7.685.857 7.462.274 8.879.879 12,772,686 8.140.325 7.469.216 12.178.272 5.237.407 6.471.573 9.542.759 5.295.524 7.274.640 8.518.115 9.796.893 8 453 559 7 498 081 6 933 809 8 21 125 316 11 831 342 12 057 750 8 382 835 7 718 721 7 475 918 8 693 906 12 539 319 7 865 421 12 484 769 5 251 578 9 453 964 5 295 524 7 246 831 8 518 112 9 20.681.047 11.903.088 12.181.640 8.385.552 8.467.821 7.754.976 7.486.544 8.481.353 12.455.797 7.459.231 7.539.604 12.600.820 5.372.852 6.720.431 9.672.629 5.295.524 7.433.505 10 20.095.543 11.956.190 12.047.901 8.461.485 8.565.347 8.091.638 7.480.132 8.515.273 12.228.895 7.494.451 7.586.354 12.368.018 5.948.585 6.652.402 9.452.432 5.295.724 20.328.244 11.961.066 12.121.809 8 504 790 8 647 604 8 094 480 7 481 252 8 549 118 12 023 866 7 400 303 7 633 071 12 470 444 6.000.946 6.693.877 9.539.005 12 20,479,299 11,959,550 12,194,216 8.674.576 8.654.986 8.095.907 7.481.862 8.582.610 12.101.118 7,425,395 7.603.806 12.133.479 5.875.552 7,052,471 13 20,635,147 11,968,738 12,323,984 8,712,300 8,662,379 8.054.458 7.481.735 8,612,926 12,053,898 7,450,178 7,631,230 12,176,584 5,890,328 14 20,796,338 11,976,248 12.373.446 8.797.458 8,760,619 8.050.069 7.481.735 8.419.199 11,535,171 7,474,462 7.660.556 12.084.066 15 20,955,578 12,153,996 12,414,145 8,824,907 8,763,703 8,050,069 7,481,735 8,433,117 11,541,679 7,498,496 7,687,823 16 21,238,443 12,270,702 12,454,657 8,629,585 8,763,787 8,050,069 7,481,735 8,431,001 11,531,779 7,522,284 20,549,947 12.278.302 12.494.644 8,640,604 8.764.731 8.050.069 7.481.735 8.471.584 11,543,628 18 20.658.968 12.305.704 12.534.389 8.660.130 8.767.395 8.050.069 7.481.735 8.485.139 20.766.504 12,302,583 12,577,856 8,797,616 8.808.505 8.050.069 7.481.735 20 20,860,130 12,309,663 12,617,517 8,812,465 8,772,260 8 050 069 100 Claim Settlement Level Additions are multiplied by the percentages at the top of each column. B. Act 57 Indemi nity Law Adjusment Factors and Claim Settlement Levels 0.9071 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 0.8247 0.8247 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 0.8247 0.9271 1.0000 0.8447 0.8437 0.8647 0.9471 1.0000 0.8627 0.8847 0.9671 1.0000 1 0000 1.0000 1 0000 1.0000 1 0000 1.0000 1 0000 1.0000 1 0000 1.0000 1 0000 1.0000 1 0000 1.0000 1.0000 1.0000 1 0000 1.0000 5 0.8817 0.9047 0.9821 1.0000 1 0000 1 0000 1 0000 1.0000 1 0000 1.0000 1 0000 1.0000 1 0000 1.0000 1 0000 1.0000 1 0000 1.0000 1.0000 1.0000 1 0000 0.9007 0.9197 0.9921 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 0.9150 0.9297 0.9971 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 Selected Years 11 to 20 8 0.9245 0.9347 1 0000 1 0000 1 0000 1.0000 1 0000 1 0000 1 0000 1.0000 1.0000 1 0000 1 0000 1.0000 1 0000 1 0000 1 0000 1.0000 Selected Years 0 to 10 Claim Settlement Level Addititve Claim Settlement Level Addititves 0.9292 0.9397 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 14th Last +1.2% per year 10 0.9340 0 9447 1 0000 1.0000 1 0000 1.0000 1 0000 1.0000 1 0000 1.0000 1.0000 1.0000 1 0000 1.0000 1 0000 1.0000 +2.0% per vear 13th Last +1.2% per vear 9th Last 11 0.9359 0.9467 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 +2.0% per year +1.2% per year 1.0000 1.0000 8th Last 12th Last 12 0.9378 0.9477 1.0000 1.0000 1.0000 1.0000 +2.0% per year +1.2% per year 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 7th Last 11th Last 13 0.9387 0.9477 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 6th Last +2.0% per year 10th Last +0.9% per vegi 14 0.9387 0.9477 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 Act 57 Effective Date Prior to 5th Last +1.5% per vegr 9th Last +0.6% per vear +0.3% per vear 15 0.9387 0.9477 1 0000 1.0000 1 0000 1 0000 1 0000 1.0000 1 0000 1.0000 1 0000 (b) Accident Year 1996 (8-23-96) 1996 4th Last +1.0% per vear 8th Last 0.9387 0 9477 16 1 0000 1.0000 1 0000 1.0000 1 0000 1.0000 1 0000 1 0000 Act 57 Effect Weiaht Effect 3rd Last +0.5% per vear 7th Last +0.2% per vear 17 0.9387 0.9477 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 17.53% 0.644 17.53% 2nd Last +0.5% per year 6th Last +0.2% per year 18 0.9387 0.9477 1.0000 1.0000 1 0000 1.0000 1 0000 1.0000 0.00% 0.356 1st Last +0.5% per year 5th Last +0.2% per year Post 4th Last 19 0.9387 0.9477 1.0000 1.0000 1.0000 1.0000 1.0000 1996 Avg 11.29% 1.000 +0.1% per year 20 0.9387 0.9477 1.0000 1.0000 1.0000 +0.0% per year 1.0000 3rd Last omplement 1.0-0.1129= 0.8871 0.8247 2nd Last +0.0% per year C. Indemnity Incurred Losses Adjusted to Act 57 Law Level and Claim Settlement Levels as of 04/30/19 +0.0% per year 1st Last 6,181,000 6,228,000 5,169,557 4,616,566 3,404,097 3,705,402 4 478 660 5,436,836 4,367,449 4,077,968 6,150,319 3,325,544 3,275,884 5,594,328 2,447,080 3,188,490 3,669,341 3,724,530 3,455,344 7,192,624 6 961 079 4871955 5 763 567 7 283 000 8 559 000 9 143 000 7,204,997 6 425 692 5 685 213 6.056.207 7 551 263 8,904,201 6,352,445 6 450 455 9,269,896 5 595 218 5.094.625 6,615,460 4,426,812 4,704,074 6.714.362 6,826,563 6,561,596 11,723,305 9,306,469 8 255 335 12 277 000 7 983 656 7,184,304 8,947,874 16.300.000 9.358.000 10.241.000 7.650.302 6.107.512 6.887.906 7.965.255 10.824.370 6.965.973 7.304.561 10.301.194 5.998.029 6.026.129 5.084.862 5.837.644 8.225.491 8.319.223 7.346.985 11.781.410 11.330.911 8.661.045 10.016.000 10.576.000 7 955 452 7 644 338 7.314.026 7 362 001 8 490 153 11 966 090 7 287 256 7 268 321 12 018 140 5 597 263 6.053.552 9 233 530 5 276 335 6 918 124 8 373 419 9 121 284 7 461 258 12 108 278 18 147 000 11 602 180 19.182.000 10.885.000 11.268.000 8.698.833 8.242.894 7.591.552 8,760,507 12.323.050 6.217.757 7,301,176 7.291.553 8.286.573 7.374.171 12.453.149 5.496.933 9,406,949 5.433.501 8.616.232 9.293.673 7.695.409 12.255.326 18.460.000 11.045.000 11.950.000 8.527.476 8.275.893 7.679.135 7.454.081 8.994.827 13.133.004 8.109.584 7.418.021 11.984.386 5.215.101 6.349.621 9.432.764 5.295.524 7.158.740 8.635.331 9.459.392 7.652.267 18 957 000 11 157 000 11 951 000 8 464 405 8 429 042 7 485 857 7 462 274 8 879 879 12 772 686 8 140 325 7 469 216 12 178 272 5 237 407 6 471 573 9 542 759 5 295 524 7 274 640 8 518 115 9.796.893 8 19.529.000 11.059.000 12 057 750 8 453 559 8 382 835 7 718 721 7 475 918 8 693 906 12 539 319 7 865 421 7 498 081 12 484 769 5 251 578 6 933 809 9 453 964 5 295 524 7 246 831 8.518.112 19,217,000 11,185,000 12,181,640 8.385.552 8.467.821 7.754.976 7.486.544 8.481.353 12,455,797 7.459.231 7,539,604 12,600,820 5.372.852 6,720,431 9.672.629 5,295,524 7,433,505 10 18,768,000 11,295,000 12.047.901 8,461,485 8 565 347 8.091.638 7.480.132 8.515.273 12.228.895 7.494.451 7.586.354 12.368.018 5 948 585 6.652.402 9.452.432 5,295,724 19.024.000 11.324.000 12.121.809 8.504.790 8,647,604 8.094.480 7.481.252 8.549.118 12.023.866 7,400,303 7.633.071 12,470,444 6.000.946 6.693.877 9.539.005 19,204,000 11,334,000 12,194,216 8,674,576 8,654,986 8,095,907 7,481,862 8,582,610 12,101,118 7,425,395 7,603,806 12,133,479 5,875,552 7,052,471 19.370.000 11.343.000 12.323.984 8.712.300 8.662.379 8.054.458 7.481.735 8.612.926 12.053.898 7,450,178 7.631.230 12.176.584 5.890.328 Note: 1996 Adjustment Factors are capped at a maximum of 1.0000

11,535,171

11.541.679

11.531.779

11,543,628

7.474.462

7.498.496

7.522.284

7.660.556

7,687,823

12.084.066

8.419.199

8.433.117

8.431.001

8.471.584

8.485.139

Source: A. Exhibit VI-A, p. 1 (A)

B. Act 57 and Claim Settlement Levels Combined

The factors in section B were taken unchanged from the corresponding section of last year's (Approved) filing.

Exhibit VI-A-5a,VI-A-5b,VI-A-5c

C. A times B equals C

19.522.000

19.671.000

19.937.000

11.350.000

11.518.000

11.629.000

11.636.000

19 19.494.000 11.659.000 12.577.856

20 19,581,000 11,666,000 12,617,517

19.393.000 11.662.000

12.373,446

12.414.145

12.454.657

12.494.644

12.534.389

8.797.458

8.824.907

8.629.585

8.640.604

8.660.130

8.797.616

8,812,465

8.760.619

8.763.703

8.763.787

8.764.731

8.767.395

8.808.505

8.050.069

8.050.069

8.050.069

8.050.069

8.050.069

8.050.069

7.481.735

7.481.735

7.481.735

7.481.735

7.481.735

7.481.735

#### Coal Mine Compensation Rating Bureau Traumatic Loss Development

	Traumatic Loss Development Exhibit VI-A P Incurred Indemnity and Funeral Losses for All Classes Combined													-A Page 4											
	A. Indemnity Reported Incurred Losses Adjusted to Act 57 Law Level and Claim Settlement Levels as of 04/30/19																								
1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 10 11 11 12 12 13 14 15 15 15 15 16 17 18 19 19	7,283,000 12,277,000 16,300,000 18,167,000 18,167,000 18,957,000 19,529,000 19,217,000 18,768,000 19,204,000 19,204,000 19,370,000 19,522,000 19,522,000 19,522,000 19,522,000 19,522,000 19,522,000 19,522,000 19,523,000 19,523,000 19,524,000	6,181,000 8,559,000 9,358,000 10,016,000 10,885,000 11,045,000 11,059,000 11,059,000 11,324,000 11,324,000 11,334,000 11,343,000 11,343,000 11,518,000 11,518,000 11,518,000 11,518,000 11,518,000 11,518,000 11,518,000 11,518,000 11,518,000 11,518,000 11,518,000 11,518,000 11,518,000 11,518,000 11,518,000 11,518,000 11,518,000 11,518,000 11,559,000	6,228,000 9,143,000 10,241,000 10,576,000 11,950,000 11,951,000 11,951,000 12,057,750 12,181,640 12,047,901 12,121,809 12,194,216 12,323,984 12,373,446 12,414,145 12,454,657 12,454,657 12,454,657 12,454,657 12,454,657 12,577,856	5,169,557 7,204,997 7,450,302 7,955,452 8,698,833 8,527,476 8,464,405 8,463,559 8,461,485 8,504,790 8,712,300 8,777,458 8,629,585 8,640,604 8,640,604 8,640,604 8,640,601 8,640,601 8,640,601 8,640,601 8,640,601 8,640,601	1998 4,616,56,66 6,425,692 7,184,338 8,242,894 8,275,893 8,429,042 8,382,832 8,467,832 8,467,832 8,665,347 8,664,794 8,760,619 8,760,619 8,764,731 8,767,395 8,764,731 8,767,395 8,808,505	3,404,097 5,685,213	3,705,402 6,056,207	4,478,660 7,551,263 7,965,255 8,490,153 8,760,507 8,9794,827 8,673,906 8,481,353 8,515,273 8,549,118 8,582,610 8,612,926 8,419,199 8,433,117	2002 5.436.836 8.904.201 10.824.370 10.824.370 12.323.050 13.133.004 12.772.686 12.539.319 12.455.797 12.228.895 12.023.866 12.101.118 12.053.898 11.5351,779 11.531,779	2003 4.367.449 6.352.445 6.965.973 7.287.265 8.286.573 8.109.584 8.140.325 7.865.421 7.490.303 7.492.451 7.492.303 7.494.451 7.402.303 7.452.21 7.494.451 7.402.303 7.452.21	2004 4,077,988 6,450,455 7,304,658 7,324,171 7,448,021 7,448,021 7,459,081 7,639,604 7,633,071 7,603,806 7,631,230 7,660,556 7,667,823	9,269,896 10,301,194 12,018,140 12,453,149 11,984,386 12,178,272 12,484,769 12,600,820 12,368,018 12,470,444 12,133,479	2006 3,325,544 5,598,218 5,998,029 5,597,263 5,478,693 5,215,101 5,237,407 5,251,578 5,372,852 5,948,385 6,000,946 5,875,552 5,875,552 5,879,532	2007 3,275,884 5,094,625 6,026,129 6,053,552 6,217,757 6,349,621 6,471,573 6,933,809 6,720,431 6,652,402 6,693,877 7,052,471	5,594,328 6,615,460	2009 2447,080 4.426,812 5.084,832 5.276,33,501 5.295,524 5.295,524 5.295,524 5.295,524 5.295,524	2010 3,188,490 4,704,074 5,837,644 6,918,124 7,301,176 7,158,740 7,274,640 7,246,831 7,433,505	2011 3,669,341 6,714,362 8,225,491 8,373,419 8,616,232 8,635,331 8,518,115 8,518,112	2012 3,724,530 6,826,563 8,319,223 9,121,284 9,293,673 9,459,392 9,796,893	2013 3,455,344 6,561,596 7,346,985 7,461,258 7,695,409 7,652,267	11,781,410 12,108,278	2015 6.961,079 9.306.469 11.330,911 11.602,180	2016 4,871,955 7,983,656 8,661,045	2017 5,763,567 8,255,335	2018 5,566,332
В.	Annual Los	s Develop	ment Facto	ors																					
1:2 2:3 3:4 4:5 5:6 6:7 7.8 8:9 9:10 10:11 11:12 12:13 13:14 14:15 15:16 16:17 17:18 18:19	1.0135 0.9675 1.0053 1.0052 1.0045	1.0148 1.0096 1.0006 1.0002 0.9997 1.0006	1.0040 1.0033 1.0033 1.0032 1.0032 1.0035	1.0043 1.0098 1.0031 0.9779 1.0013 1.0023 1.0159	1.0009 1.0009 1.0113 1.0004 1.0001 1.0003 1.0047 0.9959	1.0004 1.0002 0.9949 0.9995 1.0000 1.0000 1.0000 1.0000	0.9991 1.0001 1.0001 1.0000 1.0000 1.0000 1.0000 1.0000	0.9756 1.0040 1.0040 1.0035 0.9775 1.0017 0.9997 1.0048 1.0016	0.9817 0.9933 0.9818 0.9832 1.0064 0.9961 0.9570 1.0006 0.9991	1.0038 0.9662 0.9484 1.0047 0.9874 1.0033 1.0033 1.0032	1.0059 1.0069 1.0039 1.0055 1.0062 1.0062 1.0062 1.0036 1.0038 1.0036	1.0362 0.9624 1.0162 1.0252 1.0093 0.9815 1.0083 0.9730 0.9730	0.9332 0.9821 0.9487 1.0043 1.0027 1.0231 1.1072 1.0088 0.9791 1.0025	1.1828 1.0046 1.0271 1.0212 1.0172 1.0714 0.9692 1.0536	1.1825 1.3526 1.0319 1.0188 1.0027 1.0117 0.9907 1.0231 1.0977 1.0092	1.8090 1.1487 1.0377 1.0298 0.9746 1.0000 1.0000	1.4753 1.2410 1.1851 1.0554 0.9805 1.0162 0.9962 1.0258	1.8299 1.2251 1.0180 1.0290 1.0022 0.9864 1.0000	1.8329 1.2187 1.0964 1.0189 1.0178 1.0357	1.8990 1.1197 1.0156 1.0314 0.9944	1.6299 1.0050 1.0277 1.0121	1.3369 1.2175 1.0239	1.6387 1.0848	1.4323	
C. 1:2 2:3 3:4 4:55 5:6 6:7 7:8 8:9 9:10 10:11 11:12 12:13 13:14 14:15 15:16 16:17 17:18 18:19 19:20	Summary					10 Year Straight Average 1.6066 1.1796 1.0374 1.0241 0.9910 1.0108 0.9973 1.0052 1.0014 1.0017 1.0013 0.9959 1.0031 1.0006 0.9976 1.0019 1.0019	Straight '	Weighted	10 Year Average Ex. Hi/LU 1.623 1.1798 1.0320 1.0254 0.9926 1.0098 1.0001 0.9999 0.9959 1.0027 0.9988 1.0001 1.0019 1.0020 1.0019 1.0020 1.0019 1.0027 1.0014	_	6 Year Weighted Average 1.5846 1.1333 1.0519 1.0271 0.9976 1.0123 1.0092 1.0092 1.0048 0.9994 1.0017 0.9864 1.0014 1.0012 1.0012 1.0014 1.0014 1.0038 1.0016		Average of Middle Four 1.5106 1.1627 1.0417 1.0261 1.0936 1.0037 1.0037 1.0006 1.0013 1.0020 1.0015 1.0020 1.0015 1.0037 1.0016 1.0015 1.0037 1.0016	E	Straight Av	s Developm of Straight A Averages fo verages for 1	ent Factors verages for 10 and 6 ye	10 and 6 years, ears, es excluding 1	urs, nighest and l	owest,					

#### Coal Mine Compensation Rating Bureau Traumatic Loss Development Indemnity Claim Settlement Adjustment Factors Summary of Data and Selections

	(1)	(2)
Data	0 to 10	0 to 10
as of	<u>Development</u>	<u>Selection</u>
4/30/2005	0.3%	0.5%
4/30/2004	0.8%	0.5%
4/30/2003	1.4%	0.5%
4/30/2002	1.0%	1.0%
4/30/2001	2.2%	1.5%
4/30/2000	3.1%	2.0%
4/30/1999	2.7%	2.0%
4/30/1998	2.8%	2.0%
4/30/1997	<u>2.2%</u>	<u>2.0%</u>
Total	16.5%	12.0%
	(3)	(4)
Data	10 to 20	10 to 20
as of	<u>Development</u>	Selection
4/30/2010	0.0%	0.0%
4/30/2009	0.1%	0.0%
4/30/2008	0.0%	0.0%
4/30/2007	0.1%	0.1%
4/30/2006	0.2%	0.2%
4/30/2005	0.4%	0.2%
4/30/2004	0.2%	0.2%
4/30/2003	0.9%	0.3%
4/30/2002	0.5%	0.6%
4/30/2001	1.4%	0.9%
4/30/2000	4.4%	1.2%
4/30/1999	0.1%	1.2%
4/30/1998	0.0%	1.2%
4/30/1997	<u>0.0%</u>	1.2%
Total	8.3%	7.3%

#### Sources:

- (1) Exhibit VI-A Page 5b
- (2) Exhibit VI-A Page 5b
- (a) Exhibit VI-A Page 5c for 2001-2010, Filing effective 4/1/2009 for 1997-2000 (4) Exhibit VI-A Page 5c for 2001-2010, Filing effective 4/1/2009 for 1997-2000

Note: Personnel from the CMCRB have concluded that the impact of Act 57 has waned to the point that the Claim Settlement effect for this year and future years is zero (0.00). Thus this Exhibit will no longer be updated.

#### Coal Mine Compensation Rating Bureau Traumatic Loss Development Indemnity Claim Settlement Adjustment Factors - 1st to 10th Report

	(1)	(2)	(3)	(4)		(1)	(2)	(3)	(4)		(1)	(2)	(3)	(4)		(1)	(2)	(3)	(4)
Accident	4/30/1997	12 Month			Accident	4/30/1998	12 Month			Accident	4/30/1999	12 Month			Accident	4/30/2000	12 Month		
<u>Year</u>		Fav_Dev <sup>(u)</sup>	(2) / (1)	<u>Selection</u>	<u>Year</u>	Rpt.Loss <sup>(u)</sup>	Fav_Dev <sup>(4)</sup>	(2) / (1)	<u>Selection</u>	<u>Year</u>	Rpt.Loss <sup>(4)</sup>	Fav_Dev <sup>(a)</sup>	(2) / (1)	<u>Selection</u>	<u>Year</u>	Rpt.Loss( <sup>11)</sup>	Fav_Dev <sup>(u)</sup>	(2) / (1)	Selection
1987	18,806	759	4.0%	XX	1988	16,032	0	0.0%	XX	1989	18,878	368	1.9%	XX	1990	29,328	800	2.7%	XX
1988	15,731	926	5.9%	XX	1989	19,106	874	4.6%	XX	1990	29,654	1150	3.9%	XX	1991	19,165	457	2.4%	XX
1989	19,920	856	4.3%	XX	1990	30,400	1150	3.8%	XX	1991	19,430	596	3.1%	XX	1992	23,117	988	4.3%	XX
1990	30,426	478	1.6%	XX	1991	19,984	544	2.7%	XX	1992	24,122	491	2.0%	XX	1993	20,137	0	0.0%	XX
1991	19,515	319	1.6%	XX	1992	24,216	651	2.7%	XX	1993	19,482	440	2.3%	XX	1994	20,495	1321	6.4%	XX
1992	23,283	0	0.0%	XX	1993	19,117	919	4.8%	XX	1994	21,755	656	3.0%	XX	1995	12,031	0	0.0%	XX
1993	17,896	445	2.5%	XX	1994	21,058	337	1.6%	XX	1995	11,322	127	1.1%	XX	1996	10,936	663	6.1%	XX
1994	19,319	0	0.0%	XX	1995	10,822	349	3.2%	XX	1996	10,813	296	2.7%	XX	1997	XX	XX	XX	XX
1995	10,133	<u>0</u>	0.0%	XX	<u>1996</u>	9,862	<u>0</u>	0.0%	XX	<u>1997</u>	XX	XX	XX	<u>xx</u>	1998	XX	XX	<u>XX</u>	<u>xx</u>
Total	175,029	3,783	2.2%	2.0%	Total	170,597	4,824	2.8%	2.0%	Total	155,456	4,124	2.7%	2.0%	Total	135,209	4,229	3.1%	2.0%
Accident	(1) 4/30/2001	(2) 12 Month	(3)	(4)	Accident	(1) 4/30/2002	(2) 12 Month	(3)	(4)	Accident	(1) 4/30/2003	(2) 12 Month	(3)	(4)	Accident	(1) 4/30/2004	(2) 12 Month	(3)	(4)
Accident <u>Year</u>	4/30/2001		(3) (2) / (1)	(4) Selection	Accident <u>Year</u>			(3) (2) / (1)	(4) Selection	Accident <u>Year</u>			(3) (2) / (1)	(4) Selection	Accident <u>Year</u>			(3) (2) / (1)	(4) Selection
	4/30/2001	12 Month				4/30/2002	12 Month Fav_Dev <sup>(a)</sup>				4/30/2003	12 Month				4/30/2004	12 Month Fav_Dev <sup>(a)</sup>		
<u>Year</u>	4/30/2001 Rpt.Loss <sup>(a)</sup>	12 Month Fav_Dev <sup>(a)</sup>	(2) / (1)	<u>Selection</u>	<u>Year</u>	4/30/2002 Rpt.Loss <sup>(a)</sup>	12 Month Fav_Dev <sup>(a)</sup>	(2) / (1)	Selection	<u>Year</u>	4/30/2003 Rpt.Loss <sup>(a)</sup>	12 Month Fav_Dev <sup>(a)</sup>	(2) / (1)	<u>Selection</u>	<u>Year</u>	4/30/2004 Rpt.Loss <sup>(a)</sup>	12 Month Fav_Dev <sup>(a)</sup>	(2) / (1)	<u>Selection</u>
<u>Year</u> 1991	4/30/2001 <u>Rpt.Loss<sup>(a)</sup></u> 19,058	12 Month Fav_Dev <sup>(a)</sup> 244	(2) / (1) 1.3%	Selection xx	<u>Year</u> 1992	4/30/2002 <u>Rpt.Loss<sup>[a]</sup></u> 22,275	12 Month Fav_Dev <sup>(a)</sup> 0	(2) / (1) 0.0%	Selection xx	<u>Year</u> 1993	4/30/2003 <u>Rpt.Loss<sup>(a)</sup></u> 19,361	12 Month Fav_Dev <sup>(a)</sup> 236	(2) / (1) 1.2%	Selection xx	<u>Year</u> 1994	4/30/2004 <u>Rpt.Loss</u> <sup>(a)</sup> 20,243	12 Month Fav_Dev <sup>(a)</sup> 368	(2) / (1) 1.8%	Selection xx
<u>Year</u> 1991 1992	4/30/2001 <u>Rpt.Loss<sup>(a)</sup></u> 19,058 22,030	12 Month <u>Fav_Dev<sup>[a]</sup></u> 244 813	(2) / (1) 1.3% 3.7% 2.6% 2.1%	Selection xx xx xx	<u>Year</u> 1992 1993	4/30/2002 <u>Rpt.Loss<sup>[a]</sup></u> 22,275 20,029	12 Month Fav_Dev <sup>(a)</sup> 0 314	(2) / (1) 0.0% 1.6% 1.0% 2.9%	Selection xx xx	<u>Year</u> 1993 1994 1995 1996	4/30/2003 <u>Rpt.Loss<sup>(a)</sup></u> 19,361 20,681	12 Month <u>Fav_Dev<sup>(a)</sup></u> 236 637 0	(2) / (1) 1.2% 3.1%	Selection xx xx	<u>Year</u> 1994 1995	4/30/2004 <u>Rpt.Loss<sup>(a)</sup></u> 20,243 11,907	12 Month Fav_Dev <sup>[a]</sup> 368 0 0	(2) / (1) 1.8% 0.0%	Selection xx xx
<u>Year</u> 1991 1992 1993	4/30/2001 <u>Rpt.Loss<sup>[a]</sup></u> 19,058 22,030 19,887	12 Month <u>Fav_Dev<sup>[a]</sup></u> 244 813 522	(2) / (1) 1.3% 3.7% 2.6%	Selection xx xx xx xx	<u>Year</u> 1992 1993 1994	4/30/2002 <u>Rpt.Loss<sup>[a]</sup></u> 22,275 20,029 21,125	12 Month <u>Fav_Dev<sup>[a]</sup></u> 0 314 214	(2) / (1) 0.0% 1.6% 1.0%	Selection xx xx xx xx	<u>Year</u> 1993 1994 1995	4/30/2003 <u>Rpt.Loss<sup>(a)</sup></u> 19,361 20,681 11,831	12 Month <u>Fav_Dev<sup>(a)</sup></u> 236 637 0 0	(2) / (1) 1.2% 3.1% 0.0%	Selection xx xx xx xx	<u>Year</u> 1994 1995 1996	4/30/2004 <u>Rpt.Loss<sup>[a]</sup></u> 20,243 11,907 11,994	12 Month <u>Fav_Dev<sup>[a]</sup></u> 368 0 0 0	(2) / (1) 1.8% 0.0% 0.0%	Selection xx xx xx
<u>Year</u> 1991 1992 1993 1994	4/30/2001 Rpt.Loss <sup>(a)</sup> 19,058 22,030 19,887 20,719	12 Month <u>Fav_Dev<sup>[a]</sup></u> 244 813 522 434	(2) / (1) 1.3% 3.7% 2.6% 2.1%	Selection XX XX XX XX	<u>Year</u> 1992 1993 1994 1995 1996	4/30/2002 Rpt.Loss <sup>(a)</sup> 22,275 20,029 21,125 12,001	12 Month Fav_Dev <sup>[a]</sup> 0 314 214 354 0	(2) / (1) 0.0% 1.6% 1.0% 2.9%	Selection xx xx xx xx xx	<u>Year</u> 1993 1994 1995 1996 1997	4/30/2003 Rpt.Loss <sup>(a)</sup> 19,361 20,681 11,831 11,985	12 Month <u>Fav_Dev</u> <sup>(a)</sup> 236 637 0 0 xx	(2) / (1) 1.2% 3.1% 0.0% 0.0%	Selection xx xx xx xx xx	<u>Year</u> 1994 1995 1996 1997	4/30/2004 <u>Rpt.Loss<sup>(a)</sup></u> 20,243 11,907 11,994 xx	12 Month <u>Fav_Dev<sup>[a]</sup></u> 368 0 0 0 xx	(2) / (1) 1.8% 0.0% 0.0% ×x	Selection xx xx xx xx xx
<u>Year</u> 1991 1992 1993 1994 1995	4/30/2001 <u>Rpt.Loss<sup>(a)</sup></u> 19,058 22,030 19,887 20,719 12,009	12 Month <u>Fav_Dev<sup>(a)</sup></u> 244 813 522 434 162	(2) / (1) 1.3% 3.7% 2.6% 2.1% 1.3%	Selection xx xx xx xx xx xx xx	<u>Year</u> 1992 1993 1994 1995	4/30/2002 <u>Rpt.Loss</u> <sup>(a)</sup> 22,275 20,029 21,125 12,001 12,046	12 Month Fav_Dev <sup>(a)</sup> 0 314 214 354 0 xx	(2) / (1) 0.0% 1.6% 1.0% 2.9% 0.0%	Selection xx xx xx xx xx xx xx	<u>Year</u> 1993 1994 1995 1996	4/30/2003 <u>Rpt.Loss<sup>(a)</sup></u> 19,361 20,681 11,831 11,985 xx	12 Month <u>Fav_Dev</u> <sup>(a)</sup> 236 637 0 0 xx	(2) / (1) 1.2% 3.1% 0.0% 0.0% xx	Selection  xx  xx  xx  xx  xx  xx	<u>Year</u> 1994 1995 1996 1997 1998	4/30/2004 <u>Rpt.Loss</u> <sup>(a)</sup> 20,243 11,907 11,994 xx xx	12 Month Fav_Dev <sup>[a]</sup> 368 0 0 0 xx xx	(2) / (1) 1.8% 0.0% 0.0% xx xx	Selection  xx  xx  xx  xx  xx  xx
<u>Year</u> 1991 1992 1993 1994 1995	4/30/2001 Rpt.Loss <sup>(a)</sup> 19,058 22,030 19,887 20,719 12,009 11,474	12 Month Fav_Dev <sup>[a]</sup> 244 813 522 434 162 156	(2) / (1) 1.3% 3.7% 2.6% 2.1% 1.3% 1.4%	Selection  xx  xx  xx  xx  xx  xx  xx	<u>Year</u> 1992 1993 1994 1995 1996	4/30/2002 Rpt.Loss <sup>(a)</sup> 22,275 20,029 21,125 12,001 12,046 xx	12 Month Fav_Dev <sup>[a]</sup> 0 314 214 354 0 xx xx	(2) / (1) 0.0% 1.6% 1.0% 2.9% 0.0% xx	Selection  xx  xx  xx  xx  xx  xx  xx	Year 1993 1994 1995 1996 1997 1998 1999 2000	4/30/2003 <u>Rpt.Loss</u> <sup>[a]</sup> 19,361 20,681 11,831 11,985 xx xx	12 Month <u>Fav_Dev</u> <sup>[a]</sup> 236 637 0 0 xx xx	(2) / (1) 1.2% 3.1% 0.0% 0.0% xx xx	Selection  xx  xx  xx  xx  xx  xx  xx	Year 1994 1995 1996 1997 1998 1999	4/30/2004 <u>Rpt.Loss</u> <sup>(a)</sup> 20,243 11,907 11,994 xx xx	12 Month Fav_Dev <sup>[a]</sup> 368 0 0 0 xx xx xx	(2) / (1) 1.8% 0.0% 0.0% xx xx xx	Selection  xx  xx  xx  xx  xx  xx  xx  xx  xx
Year 1991 1992 1993 1994 1995 1996	4/30/2001 Rpt.Loss <sup>(a)</sup> 19,058 22,030 19,887 20,719 12,009 11,474 xx xx	12 Month Fav_Dev <sup>(a)</sup> 244 813 522 434 162 156 xx xx xx	(2) / (1) 1.3% 3.7% 2.6% 2.1% 1.3% 1.4% xx xx	Selection xx	<u>Year</u> 1992 1993 1994 1995 1996 1997	4/30/2002 <u>Rpt.Loss<sup>(a)</sup></u> 22,275 20,029 21,125 12,001 12,046 xx xx xx	12 Month <u>Fav_Dev<sup>[a]</sup></u> 0 314 214 354 0 xx xx xx xx	(2) / (1) 0.0% 1.6% 1.0% 2.9% 0.0% xx xx xx	Selection  XX  XX  XX  XX  XX  XX  XX  XX  XX	<u>Year</u> 1993 1994 1995 1996 1997 1998	4/30/2003 <u>Rpt.Loss<sup>[0]</sup></u> 19,361 20,681 11,831 11,985 xx xx xx xx	12 Month Fav_Dev <sup>(a)</sup> 236 637 0 0 xx xx xx xx	(2) / (1) 1.2% 3.1% 0.0% 0.0% xx xx xx xx	Selection xx	Year 1994 1995 1996 1997 1998 1999 2000	4/30/2004 <u>Rpt.Loss</u> <sup>[a]</sup> 20,243 11,907 11,994 xx xx xx	12 Month Fav_Dev <sup>[a]</sup> 368 0 0 0 xx xx xx	(2) / (1) 1.8% 0.0% 0.0% xx xx xx xx xx	Selection xx
Year 1991 1992 1993 1994 1995 1996 1997	4/30/2001 Rpt.Loss <sup>(o)</sup> 19,058 22,030 19,887 20,719 12,009 11,474 xx xx	12 Month Fav_Dev <sup>(a)</sup> 244 813 522 434 162 156 xx xx	(2) / (1) 1.3% 3.7% 2.6% 2.1% 1.3% 1.4% xx	Selection xx	Year 1992 1993 1994 1995 1996 1997 1998 1999	4/30/2002 <u>Rpt.Loss</u> <sup>(a)</sup> 22,275 20,029 21,125 12,001 12,046 xx xx	12 Month <u>Fav_Dev<sup>[a]</sup></u> 0 314 214 354 0 xx xx xx xx	(2) / (1) 0.0% 1.6% 1.0% 2.9% 0.0% xx xx xx	Selection xx	Year 1993 1994 1995 1996 1997 1998 1999 2000	4/30/2003 Rpt.Loss <sup>(c)</sup> 19,361 20,681 11,831 11,985 xx xx xx	12 Month Fav_Dev <sup>(a)</sup> 236 637 0 0 xx xx xx xx	(2) / (1) 1.2% 3.1% 0.0% 0.0% xx xx xx xx	Selection  xx  xx  xx  xx  xx  xx  xx  xx  xx	Year 1994 1995 1996 1997 1998 1999 2000 2001	4/30/2004 Rpt.Loss <sup>(a)</sup> 20,243 11,907 11,994 xx xx xx xx	12 Month Fav_Dev <sup>(a)</sup> 368 0 0 0 xx xx xx xx	(2) / (1) 1.8% 0.0% 0.0% xx xx xx xx xx	Selection  xx  xx  xx  xx  xx  xx  xx  xx  xx

	(1)	(2)	(3)	(4)
Accident	4/30/2005	12 Month		
<u>Year</u>	Rpt.Loss <sup>(a)</sup>	Fav Dev <sup>(a)</sup>	(2) / (1)	<u>Selection</u>
1995	11,956	70	0.6%	XX
1996	12,182	0	0.0%	XX
1997	XX	0	XX	XX
1998	XX	0	XX	XX
1999	XX	XX	XX	XX
2000	XX	XX	XX	XX
2001	XX	XX	XX	XX
2002	XX	XX	XX	XX
2003	XX	XX	XX	XX
Total	24,138	70	0.3%	0.5%

Note: Personnel from the CMCRB have concluded that the impact of Act 57 has waned to the point that the Claim Settlement effect for this year and future years is zero(0.00). Thus this Exhibit will no longer be updated.

(a) All amounts are in thousands of dollars

Sources: Column (1) Exhibit VI-A p. 1a CMCRB Data Base

#### Coal Mine Compensation Rating Bureau Traumatic Loss Development Indemnity Claim Settlement Adjustment Factors - Beyond 10th Report

Accident	(1) 4/30/2001	(2) 12 Month	(3)	(4)	Accident	(1) 4/30/2002	(2) 12 Month	(3)	(4)	Accident	(1) 4/30/2003	(2) 12 Month	(3)	(4)	Accident	(1) 4/30/2004	(2) 12 Month	(3)	(4)
<u>Year</u>	Rpt.Loss <sup>(a)</sup>	Fav Dev <sup>(a)</sup>	(2) / (1)	Selection	<u>Year</u>	Rpt.Loss <sup>(a)</sup>	Fav Dev <sup>(a)</sup>	(2) / (1)	Selection	<u>Year</u>	Rpt.Loss <sup>(a)</sup>	Fav Dev <sup>(a)</sup>	(2) / (1)	Selection	<u>Year</u>	Rpt.Loss <sup>(a)</sup>	Fav Dev <sup>(a)</sup>	(2) / (1)	Selection
1983	19,728	283	1.4%	XX	1983	19,581	0	0.0%	xx	1983	19,537	132	0.7%	XX	1983	19,617	0	0.0%	XX
1984	25,745	185	0.7%	XX	1984	25,801	0	0.0%	xx	1984	25,724	0	0.0%	xx	1984	25,837	0	0.0%	XX
1985	16,662	219	1.3%	XX	1985	16,776	0	0.0%	xx	1985	16,860	0	0.0%	xx	1985	16,954	0	0.0%	XX
1986	18,002	194	1.1%	XX	1986	17,729	221	1.2%	XX	1986	17,764	0	0.0%	XX	1986	17,812	0	0.0%	XX
1987	17,785	0	0.0%	XX	1987	17,924	0	0.0%	XX	1987	17,933	122	0.7%	XX	1987	18,072	0	0.0%	XX
1988	15,926	194	1.2%	XX	1988	15,795	217	1.4%	XX	1988	15,878	0	0.0%	XX	1988	15,845	0	0.0%	XX
1989	18,586	0	0.0%	XX	1989	18,938	0	0.0%	XX	1989	18,878		0.0%	XX	1989	18,876	0	0.0%	XX
1990	28,447	1222	4.3%	XX	1990	28,697	0	0.0%	XX	1990	28,678	294	1.0%	XX	1990	28,968	0	0.0%	XX
1991	XX	XX	XX	XX	1991	18,465	442	2.4%	XX	1991	18,005	458	2.5%	XX	1991	18,078	16	0.1%	XX
1992	XX	XX	XX	XX	1992	XX	XX	XX	xx	1992	21,860	835	3.8%	xx	1992	21,375	32	0.1%	XX
Total	160,881	2,297	1.4%	0.9%	Total	179,706	880	0.5%	0.6%	Total	201,117	1,841	0.9%	0.3%	<u>1993</u>	19,300	<u>358</u>	1.9%	<u>XX</u>
															Total	220,734	406	0.2%	0.2%
		(0)	(0)				(0)	(0)			44.3	(0)	(0)				(0)	(0)	
A = =!=!===4	(1) 4/30/2005	(2)	(3)	(4)	A!-!4	(1) 4/30/2006	(2) 12 Month	(3)	(4)	A!-!4	(1) 4/30/07	(2)	(3)	(4)	A:-I	(1) 4/30/2008	(2)	(3)	(4)
Accident		12 Month			Accident					Accident		12 Month			Accident		12 Month		
<u>Year</u>	Rpt.Loss <sup>(a)</sup>	Fav Dev <sup>(a)</sup>	(2) / (1)	<u>Selection</u>	<u>Year</u>	Rpt.Loss <sup>(a)</sup>	Fav Dev <sup>(a)</sup>	(2) / (1)	Selection	<u>Year</u>		Fav Dev <sup>(a)</sup>	(2) / (1)	<u>Selection</u>	<u>Year</u>		Fav Dev <sup>(a)</sup>	(2) / (1)	Selection
1983	19,558	0	0.0%	XX	1983	19,629	0	0.0%	XX	1983	19,485		0.0%	XX	1983	19,478	0	0.0%	XX
1984	26,025	0	0.0%	XX	1984	25,971	0	0.0%	XX	1984	26,136		0.0%	XX	1984	26,205	0	0.0%	XX
1985	17,068	0	0.0%	XX	1985	17,182	0	0.0%	XX	1985	17,144		0.0%	XX	1985	16,838	0	0.0%	XX
1986	17,907	0	0.0%	XX	1986	17,896	94	0.5%	XX	1986	17,999		0.0%	XX	1986	18,146	0	0.0%	XX
1987	18,208	0	0.0%	XX	1987	18,028	295	1.6%	XX	1987	18,007	0	0.0%	XX	1987	18,110	0	0.0%	XX
1988	15,700	0	0.0%	XX	1988	15,763	0	0.0%	XX	1988	15,827	0	0.0%	XX	1988	15,892	0	0.0%	XX
1989	18,503	380	2.1%	XX	1989	18,538	0	0.0%	XX	1989	18,579		0.0%	XX	1989	18,621	0	0.0%	XX
1990	29,336		0.0%	XX	1990	29,409	176	0.6%	XX	1990	29,661	0	0.0%	XX	1990	29,843	0	0.0%	XX
1991	18,154	0	0.0%	XX	1991	18,201	0	0.0%	XX	1991	18,272		0.0%	XX	1991	18,318	0	0.0%	XX
1992	20,831	631	3.0%	XX	1992	20,921	0	0.0%	XX	1992	20,665		0.0%	XX	1992	20,738	0	0.0%	XX
1993	19,597	0	0.0%	XX	1993	19,782	0	0.0%	XX	1993	19,781	167	0.8%	XX	1993	19,744	0	0.0%	XX
<u>1994</u>	20,328	0	0.0%	<u>XX</u>	1994	20,479	8	0.0%	XX	1994	20,635		0.0%	XX	1994	20,796	0	0.0%	XX
Total	241,215	1,011	0.4%	0.2%	<u>1995</u>	11,961	0	0.0%	XX	1995	11,960		0.1%	XX	1995	11,969	0	0.0%	XX
					Total	253,760	573	0.2%	0.2%	<u>1996</u>	12,122	<u>0</u>	0.0%	<u>XX</u>	1996	12,194	40	0.3%	XX
										Total	266,273	176	0.1%	0.1%	1997	<u>8,505</u>	<u>0</u>	0.0%	<u>XX</u>
	(1)	(2)	(3)	(4)											Total	275,397	40	0.0%	0.0%

	(1)	(2)	(3)	(4)
Accident	4/30/2009	12 Month		
<u>Year</u>	Rpt.Loss <sup>(a)</sup>	Fav Dev <sup>(a)</sup>	(2) / (1)	Selection
1983	19,527	0	0.0%	XX
1984	26,360	0	0.0%	XX
1985	16,906	0	0.0%	XX
1986	18,235	0	0.0%	XX
1987	18,212	0	0.0%	XX
1988	15,850	0	0.0%	XX
1989	18,662	0	0.0%	XX
1990	29,708	140	0.5%	XX
1991	18,252	104	0.6%	XX
1992	20,811	0	0.0%	XX
1993	19,892	0	0.0%	XX
1994	20,956	0	0.0%	XX
1995	11,976	0	0.0%	XX
1996	12,324	0	0.0%	XX
1997	8,675	0	0.0%	XX
1998	8,648	<u>0</u>	0.0%	XX
Total	284,994	244	0.1%	0.0%

Note: Personnel from the CMCRB have concluded that the impact of Act 57 has waned to the point that the Claim Settlement effect for this year and future years is zero(0.00). Thus this Exhibit will no longer be updated.

All amounts are in thousands of dollars

Sources: Column (1) Exhibit VI-A p. 1a CMCRB Database as of 04/30/19 - Validated 08/06/19 and prior

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#### Coal Mine Compensation Rating Bureau Traumatic Loss Development Incurred Medical Losses for All Classes Combined

Exhibit VI-B Page 1

							Incur	ed Medico	al Losses fo	r All Class	es Combin	ed										
2 4,929,891 4,443,755 3 5,062,121 4,353,568 4 5,216,951 4,294,114 5 5,111,218 4,416,259 6 5,029,268 4,483,826 7 5,059,712 4,66,919 8 5,113,134 4,706,403 9 5,124,726 4,685,434 10 5,144,115 4,668,534 11 5,273,693 4,693,740 12 5,295,932 4,815,890 13 5,366,840 4,867,709 14 5,366,481 4,793,570 15 5,384,567 4,836,117 16 5,423,525 4,865,082 17 5,290,059 4,883,436 18 5,370,678 4,927,115 19 5,371,078 4,972,7115	1996   1997   1,35,165   3,185,472   4,315,884   3,374,978   4,689,720   3,578,972   4,806,190   3,810,363   4,703,865   3,978,305   4,578,161   3,932,216   4,617,085   4,015,769   4,937,793   4,625,715   4,617,69   4,937,793   4,625,933   4,593,238   4,593,294   4,602,844   4,501,155   4,627,441   4,501,155   4,627,844   4,91,418   4,702,741   4,514,259   4,723,464   4,91,418   4,702,741   4,514,259   4,723,464   4,91,418   4,702,741   4,514,259   4,723,464   4,91,418   4,702,741   4,514,259   4,723,464   4,91,418   4,702,741   4,514,259   4,723,464   4,91,418   4,702,741   4,514,259   4,723,464   4,91,418   4,702,741   4,91,418   4,702,741   4,91,418   4,702,741   4,91,418   4,702,741   4,91,418   4,702,741   4,91,418   4,702,741   4,91,418   4,702,741   4,91,418   4,702,741   4,91,418   4,702,741   4,91,418   4,702,741   4,91,418   4,702,741   4,91,418   4,702,741   4,91,418   4,702,741   4,91,418   4,702,741   4,91,418   4,702,741   4,91,418   4,702,741   4,91,418   4,702,741   4,91,418   4,702,741   4,91,418   4	3,630,642 3,720,868 3,709,153 3,761,263 3,760,723 3,791,456 3,741,005 3,777,626 3,861,559 3,863,219 3,851,694 3,851,841 3,851,841 3,852,213 3,853,125 3,838,125	3,012,839 3,186,033 3,057,663 3,188,781 3,178,086 3,133,358 3,171,882 3,236,426 3,353,094 3,409,251 3,531,522 3,531,522 3,533,087 3,539,649 3,539,649 3,539,649 3,539,649 3,539,760	2,716,963 2,818,387 2,836,912 2,886,530 2,937,414 2,927,989 2,952,750 2,950,698 2,948,865 3,021,208 3,021,095 3,020,836 3,080,810	2,589,253 2,646,248 2,629,910 2,816,076 2,896,624 2,782,196 2,789,664 2,782,114 2,879,623 2,963,075 3,005,905 3,012,114 3,143,372 3,237,259 3,220,132 3,006,814	3,609,439 3,762,837 3,890,149 3,874,531 4,191,261 4,257,734 4,339,920 4,145,606 4,160,518 4,164,525 4,194,244 4,185,516 4,205,064	2,756,587 2,912,119 2,899,687 2,897,577 2,890,067 3,080,177 3,110,017 3,103,090 3,209,975 3,209,907 3,209,709 3,209,709	3,555,290 4,147,713 4,166,709 4,131,369 4,080,336 4,180,965 4,187,418 4,190,701 4,206,298 4,370,336 4,350,145 4,351,280	4,031,513 4,161,949 4,249,331 4,143,155 4,299,151 4,349,353 4,411,495 4,403,570	2006 2,871,489 3,286,804 3,511,501 3,418,585 3,401,038 3,370,262 3,381,086 3,382,185 3,507,194 3,729,031 3,802,480 3,748,522 3,748,523	5,575,559 5,632,912 5,757,902 5,864,639 5,841,539	3,749,858 3,709,814 3,804,580	3,021,605 2,891,686 2,991,503	2010 3,630,574 3,914,782 4,167,466 4,413,176 4,604,796 4,477,330 4,459,354 4,338,559 4,314,642	2011 4,362,098 5,517,2374 5,699,134 5,673,084 5,654,038 6,232,068	2012 4,806,118 5,258,148 5,258,149 5,404,121 5,406,521 5,519,600 5,465,514 5,458,952	2013 3,639,740 4,294,769 4,076,856 3,971,009 4,074,140 4,082,497	2014 6,225,769 6,357,441 6,043,218 5,873,834 5,883,352	2015 4,054,856 3,955,258 3,953,405 3,824,391	2016 3,963,291 4,465,934 4,190,581	2017 6.387,316 5.882,211	2018 5,562,604
B. Act 44 Medical Low Acjus 1 0,9773 1.0000 2 0,9998 1.0000 3 0,9961 1.0000 4 1.0000 1.0000 5 1.0000 1.0000 6 1.0000 1.0000 7 1.0000 1.0000 9 1.0000 1.0000 10 1.0000 1.0000 11 1.0000 1.0000 12 1.0000 1.0000 13 1.0000 1.0000 14 1.0000 1.0000 15 1.0000 1.0000 16 1.0000 1.0000 17 1.0000 1.0000 18 1.0000 1.0000 19 1.0000 1.0000 19 1.0000 1.0000 10 1.0000 1.0000 10 1.0000 1.0000	Transport   Tran	1.0000 1.0000	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000			1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 unt Factor: 0	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	1.0000 1.0000 1.0000 1.0000 1.0000	1.0000 1.0000 1.0000 1.0000	1.0000 1.0000 1.0000	1.0000 1.0000	1.0000
2 4.884.000 4.443.755 3 5.042.000 4.353.568 4 5.216.751 4.294.114 5 5.111.218 4.416.259 6 5.029.268 4.483.826 7 5.059.712 4.666.919 8 5.113.134 4.706.403 9 5.124.726 4.685.434 10 5.144.115 4.668.534 11 5.273.693 4.693.740 12 5.295.932 4.815.890 13 5.364.840 4.869.709 14 5.366.481 4.793.570 15 5.384.567 4.836.117 16 5.423.525 4.865.082 17 5.290.059 4.883.436	1,15,165 3,185,472 3,15,844 3,15,844 3,14,948 4,689,720 3,598,928 4,808,246 3,571,097 4,806,190 3,810,363 4,703,865 3,978,305 4,578,161 3,932,216 4,617,085 4,015,857 4,625,715 4,015,857 4,625,715 4,520,953 4,593,309 4,504,485,294 4,602,844 4,491,418 4,702,741 4,520,959 4,694,564 4,513,552 4,694,564 4,513,552 5,023,336 4,535,253 5,023,336 4,535,253 5,023,336 4,535,253 5,023,336 4,535,523 5,023,336 4,535,523 5,023,336 4,535,523 5,023,336 4,535,523 5,023,336	3,370,548 3,630,642 3,628,890 3,720,868 3,761,263 3,761,263 3,761,263 3,761,263 3,771,626 3,741,005 3,777,626 3,861,559 3,864,553 3,851,694 3,851,841 3,851,841 3,852,213 3,853,125 3,838,125	2,714,671 3,012,839 3,186,033 3,057,663 3,178,086 3,178,086 3,133,358 3,171,882 3,236,426 3,236,426 3,357,242 3,357,242 3,409,251 3,531,087 3,531,087 3,531,688 3,533,087 3,539,649 3,539,740 3,534,812 3,535,783	2,716,963 2,818,387 2,836,912 2,836,912 2,885,530 2,937,414 2,927,989 2,921,384 2,952,750 2,950,698 2,948,865 3,021,208 3,021,208 3,021,095 3,020,836 3,080,845 3,080,845 2,872,279	2,589,253 2,646,248 2,629,910 2,816,076 2,896,624 2,822,196 2,789,664 2,782,114 2,879,623 3,005,905 3,012,114 3,143,372 3,237,259 3,220,132	3,609,439 3,762,837 3,890,149 3,874,531 4,191,261 4,257,734 4,339,920 4,145,606 4,160,518 4,164,525 4,194,244 4,185,516 4,205,064 4,202,349	2,812,481 2,794,988 2,756,587 2,912,119 2,897,577 2,897,577 2,890,067 3,080,177 3,110,017 3,103,090 3,209,975	3,555,290 4,147,713 4,166,709 4,131,369 4,080,336 4,180,965 4,187,418 4,190,701	4,031,513 4,161,949 4,249,331 4,143,155 4,299,151 4,349,353 4,411,495 4,403,570 4,356,915	3,286,804 3,511,501 3,418,585 3,401,038 3,370,262 3,381,086 3,382,185 3,507,194 3,729,031 3,729,031 3,729,031 3,729,031 3,729,031 5,729,	5.501.458 5.575.559 5.632.912 5.757.902 5.864.639 5.841.539 5.950.133 5.807.440 5.819.126 5.819.126 5.899.866 5.991.937	3,709,814 3,804,580 3,837,840 3,842,096 3,811,253 3,599,483 3,608,725 3,619,059 3,627,183	3.021,605 2.891,686 2.991,503 2.983,393 2.946,694 2.946,651 3.136,651 3.137,264	3,914,782 4,167,466 4,413,176 4,604,796 4,477,330 4,459,354 4,338,559 4,314,642	5,517,261 5,633,374 5,609,134 5,673,084 5,654,038 6,232,068 6,232,068	4,806,118 5,258,148 5,404,121 5,406,521 5,519,600 5,465,514 5,458,952	3,639,740 4,294,769 4,076,856 3,971,009 4,074,140 4,082,497	6,225,769 6,357,441 6,043,218 5,873,834 5,883,352	4,054,856 3,955,258 3,953,405 3,824,391	3,963,291 4,465,934 4,190,581	6,387,316 5,882,211	5,562,604

C. Medical Incurred Losses Adjusted to Act 44 Law Level = A x B

#### Coal Mine Compensation Rating Bureau Traumatic Loss Development Incurred Medical Losses for All Classes Combined

Exhibit VI-B Page 2

A. Adjustment to	- 4-4-4-1	l accel							incu	rrea meaic	cai Losses i	or All Clas	ses Combi	nea										
Report 1994 1 0.9773 2 0.9908 3 0.9961 4 1.0000 5 1.0000 6 1.0000 7 1.0000 10 1.0000 11 1.0000 12 1.0000 14 1.0000 15 1.0000 15 1.0000 16 1.0000 17 1.0000 18 1.0000 19 1.0000 19 1.0000 19 1.0000 19 1.0000 19 1.0000 19 1.0000 19 9.0000 19 1.0000 19 9.0000 19 1.0000 19 9.0000 19 9.0000	1995 1,0000 1,00	1996 1.0000	1997 1.0000	1998 1.0000	1999 1.0000	2000 1.0000	2001 1.0000	2002 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	2003 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	2004 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	2005 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	2006 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	2007 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	2008 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	2009 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	2010 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	2011 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	2012 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	2013 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	2014 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	2015 1.0000 1.0000 1.0000 1.0000 1.0000	2016 1.0000 1.0000 1.0000	<u>2017</u> 1.0000 1.0000	2018 1.0000
B. Claim Settlen 1 0.0190 2 0.0380 3 0.0570 4 0.0760 5 0.0903 6 0.1036 7 0.1159 8 0.1273 9 0.1378 10 0.1473 11 0.1549 12 0.1596 13 0.1596 14 0.1596 16 0.1596 16 0.1596 17 0.1596 18 0.1596 19 0.1596	0.0200 0.0400 0.0500 0.0750 0.0890 0.1020 0.1140 0.1250 0.1350 0.1480 0.1480 0.1480 0.1480 0.1480 0.1480	ents Addition 0.0200 0.0400 0.0550 0.0690 0.0820 0.0940 0.0150 0.1150 0.1280 0.1280 0.1280 0.1280 0.1280 0.1280 0.1280 0.1280 0.1280 0.1280 0.1280 0.1280 0.1280 0.1280	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000	0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000		0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 Act 44 Disco	n Settlement	0,0000 0,0000 0,0000 0,0000 0,0000 0,0000 0,0000 0,0000 0,0000 0,0000	0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000	0.0000 0.0000 0.0000 0.0000 0.0000 17th Last 16th Last 15th Last 14th Last 12th Last 11th Last 10th Last 9th Last 9th Last 4th Last 5th Last 4th Last 4th Last 1th Last	2.0% p 2.0% p 2.0% p 2.0% p 2.0% p 1.5% p 1.4% p 1.3% p 1.2% p 1.1% p 1.0% p 0.0% p 0.0% p 0.0% p	dditions per year
C. Sum of Adjust 1 0.9963 2 1.0000 3 1.0000 4 1.0000 5 1.0000 7 1.0000 8 1.0000 10 1.0000 11 1.0000 12 1.0000 13 1.0000 14 1.0000 15 1.0000 15 1.0000 16 1.0000 17 1.0000 18 1.0000 19 1.0000 20 1.0000 20 1.0000	Intent fo Act 1,0000	44 Low Level 1.0000	and Claim 1,0000	Settlement A 1.0000	djustments A 1,0000	xdditions 1,0000	1,0000 1,0000	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	В.	. Claim Settle		ments Additi	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000		1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	1.0000 1.0000 1.0000 1.0000 1.0000	1.0000 1.0000 1.0000 1.0000	1.0000 1.0000 1.0000	1.0000	1.0000

#### Exhibit VI-B Page 3

#### Coal Mine Compensation Rating Bureau Traumatic Loss Development Incurred Medical Losses for All Classes Combined

				ea Losses as o																						
Repo		1994	1995	<u>1996</u>	1997	1998	1999	2000	2001	2002	2003	2004	2005	<u>2006</u>	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
			3,946,197	4,135,165	3,185,472	3,370,548		2,468,601	2,225,216	3,150,255	2,579,313	3,189,109	3,700,850	2,871,489	5,478,955	3,509,674	2,761,649	3,630,574	4,362,098	4,806,118	3,639,740	6,225,769	4,054,856	3,963,291	6,387,316	5,562,604
		929,891	4,443,755	4,315,884	3,374,998	3,630,642	3,012,839	2,716,963	2,589,253	3,609,439	2,812,481	3,555,290	4,031,513	3,286,804	5,501,458	3,749,858	3,021,605	3,914,782	5,517,261	5,258,148	4,294,769	6,357,441	3,955,258	4,465,934	5,882,211	
	3 5,0	062,121	4,353,568	4,689,720	3,598,928	3,628,890		2,818,387	2,646,248	3,762,837	2,794,988	4,147,713	4,161,949	3,511,501	5,575,559	3,709,814		4,167,466	5,633,374	5,404,121	4,076,856	6,043,218	3,953,405	4,190,581		
		216,951	4,294,114	4,808,246	3,571,097	3,720,868		2,836,912	2,629,910		2,756,587	4,166,709	4,249,331	3,418,585	5,632,912	3,804,580	2,991,503	4,413,176	5,609,134	5,406,521	3,971,009	5,873,834	3,824,391			
			4,416,259	4,806,190	3,810,363	3,709,153	3,188,781	2,885,530	2,816,076	3,874,531	2,912,119	4,131,369	4,143,155	3,401,038	5,757,902	3,837,840	2,983,393	4,604,796	5,673,084	5,519,600	4,074,140	5,883,352				
	6 5,0	029,268	4,483,826	4,703,865	3,978,305	3,761,263	3,178,086	2,937,414	2,896,624	4,191,261	2,899,687	4,080,336	4,299,151	3,370,262	5,864,639	3,842,096	2,946,694	4,477,330	5,654,038	5,465,514	4,082,497					
	7 5,0	059,712	4,666,919	4,578,161	3,932,216	3,760,723	3,133,358	2,927,989	2,822,196	4,257,734	2,897,577	4,180,965	4,349,353	3,381,086	5,841,539	3,811,253	2,946,651	4,459,354	6,232,068	5,458,952						
	8 5,	113,134	4,706,403	4,617,085	3,951,475	3,791,456	3,171,882	2,921,384	2,789,664	4,339,920	2,890,067	4,187,418	4,411,495	3,382,185	5,950,133	3,599,483	2,986,651	4,338,559	6,232,068							
	9 5,	124,726	4,685,434	4,625,715	4,015,857	3,741,005	3,236,426	2,952,750	2,782,114	4,145,606	3,080,177	4,190,701	4,403,570	3,507,194	5,807,440	3,608,725	3,136,651	4,314,642								
1	10 5,	144,115	4,668,534	4,651,769	4,393,793	3,777,626	3,357,242	2,950,698	2,879,623	4,160,518	3,110,017	4,206,298	4,356,915	3,729,031	5,819,126	3,619,059	3,137,264									
1	11 5,:	273,693	4,693,740	4,625,953	4,593,238	3,861,559	3,353,094	2,948,865	2,963,075	4,164,525	3,103,090	4,370,336	4,427,072	3,802,480	5,899,866	3,627,183										
	12 5.5	295,932	4,815,890	4,594,309	4,586,566	3,843,219	3,409,251	3,021,208	3,005,905	4,194,244	3.209.975	4,350,145	4,413,282	3,748,522	5,991,937											
			4,869,709	4,485,294	4,602,844	3,868,653		3,021,095	3,012,114	4,185,516	3,209,907	4,351,280	4,715,281	3,748,523												
		366,481	4,793,570	4,501,155	4,627,844	3,851,694		3,020,836	3,143,372	4,205,064	3,209,709	4,376,929	4,715,272													
			4,836,117	4,491,418	4,702,741	3,851,841		3,080,845	3,237,259	4,202,349	3,209,709	4,379,582														
		423,525	4,865,082	4,520,959	4,694,564	3,852,213		3,080,810	3,220,132		3,151,961															
		290,059	4,883,436	4,514,259	4,723,464	3,838,125	3,539,760	2,872,279	3,006,814	3,961,842																
			4,927,115	4,523,523	5,023,336	3,835,125	3,534,812	2,872,279	3,017,086																	
			4,917,010	4,536,280	5,023,336	3,834,626	3,535,783	2,872,279	0,017,000																	
			5,276,620	4,528,080	5,023,209	3,834,646	3,536,162	2,0,2,2,,																		
	-0 0,	107,011	0,2,0,020	1,020,000	0,020,207	0,00 1,0 10	0,000,102																			
	B. Act	44 Medico	al Law Adjus	ment Factor	rs and Claim	Settlement	Levels																			
	1	0.9963	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	2	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
	3	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		
	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000			
	5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000				
	6	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000					
	7	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000						
	8	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000							
	9	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000								
	10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000									
	11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000										
	12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000											
	13	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000												
	14	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		Г	Act 44 Disco	ount Factor: (	7082								
	15	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		2	elected Clair										
	16	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000			9	ciccica ciaii	III SCINCINCI	racioi								
	17	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000															
										1.0000																
	18	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000					L	Note: A	ct 44 effectiv	ve in 1993									
	19	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000																		
- 2	20	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000																			
(	C. Med	dical Incur	red Losses A	diusted to A	ct 44 Law Le	evel and Cla	im Settlemer	nt Levels as o	f 04/30/19																	
			3,946,197		3,185,472					3.150.255	2,579,313	3,189,109	3,700,850	2,871,489	5,478,955	3,509,674	2,761,649	3,630,574	4,362,098	4,806,118	3,639,740	6,225,769	4,054,856	3,963,291	6,387,316	5,562,604
		929.891	4,443,755	4.315.884	3,374,998	3,630,642		2,716,963	2,589,253		2.812.481	3.555,290	4,031,513	3,286,804	5,501,458	3,749,858	3.021.605	3.914.782	5.517.261	5.258.148	4.294.769	6.357.441	3,955,258	4.465.934	5.882.211	-,,
		062,121	4,353,568	4,689,720	3,598,928	3,628,890	3,186,033	2,818,387	2,646,248	3,762,837	2,794,988	4,147,713	4,161,949	3,511,501	5,575,559	3,709,814	2,891,686	4,167,466	5,633,374	5,404,121	4,076,856	6,043,218	3,953,405	4,190,581	-,,	
		216.951	4.294.114	4.808.246	3,571,097	3,720,868	3,057,663	2,836,912	2,629,910	3,890,149	2,756,587	4,166,709	4,249,331	3,418,585	5,632,912	3,804,580	2,991,503	4,413,176	5,609,134	5,406,521	3,971,009	5.873.834	3.824.391	1,170,001		
			4,416,259	4,806,190	3,810,363	3,709,153		2,885,530	2,816,076	3,874,531	2,912,119	4,131,369	4,143,155	3,401,038	5,757,902	3,837,840	2,983,393	4,604,796	5,673,084	5,519,600	4.074.140	5.883.352	0,02 1,07 1			
			4,483,826	4,703,865	3,978,305	3,761,263			2,896,624	4,191,261	2,899,687	4,080,336	4,299,151	3,370,262	5,864,639	3,842,096		4,477,330	5,654,038	5,465,514	4,082,497	3,000,002				
			4,666,919	4,578,161	3,932,216	3,760,723		2,927,989	2,822,196	4,257,734	2,897,577	4,180,965	4,349,353	3,381,086	5,841,539	3,811,253	2,946,651	4,459,354	6,232,068	5,458,952	4,002,477					
			4,706,403	4,617,085	3,951,475	3,791,456			2,789,664	4,339,920	2,890,067	4,187,418	4,411,495	3,382,185	5,950,133	3,599,483	2,986,651	4,338,559	6,232,068	3,430,732						
			4,685,434	4,625,715	4,015,857	3,741,005		2,952,750	2,782,114	4,145,606	3,080,177	4,190,701	4,403,570	3,502,103	5,807,440	3,608,725	3,136,651	4,336,337	0,232,000							
			4,668,534	4,651,769	4,393,793	3,777,626	3,357,242		2,879,623	4,160,518	3,110,017	4,206,298	4,356,915	3,729,031	5,819,126	3,619,059	3,137,264	4,514,042								
			4,693,740	4,625,953	4,593,238	3,861,559			2,963,075		3,110,017	4,206,276	4,427,072	3,802,480	5,899,866	3,627,183	0,107,204									
			4,815,890	4,625,953					3,005,905			4,370,336	4,427,072		5,991,937	3,027,103										
					4,586,566	3,843,219		3,021,208		4,194,244	3,209,975			3,748,522	3,771,73/											
		346,840	4,869,709	4,485,294	4,602,844	3,868,653	3,531,522	3,021,095	3,012,114	4,185,516	3,209,907	4,351,280	4,715,281	3,748,523												
		366,481	4,793,570	4,501,155	4,627,844	3,851,694	3,532,688	3,020,836	3,143,372	4,205,064	3,209,709	4,376,929	4,715,272													
		384,567	4,836,117	4,491,418	4,702,741	3,851,841	3,533,087	3,080,845	3,237,259	4,202,349	3,209,709	4,379,582														
		423,525	4,865,082	4,520,959	4,694,564	3,852,213		3,080,810	3,220,132	3,961,842	3,151,961															
			4,883,436	4,514,259	4,723,464	3,838,125	3,539,760	2,872,279	3,006,814	3,961,842																
			4,927,115	4,523,523	5,023,336	3,835,125	3,534,812	2,872,279	3,017,086					_												
			4,917,010	4,536,280	5,023,336	3,834,626	3,535,783	2,872,279								Medical Incur										
- 2	20 5,4	46/,814	5,276,620	4,528,080	5,023,209	3,834,646	3,536,162													Levels: Exhib						
														(	J. Medical In	curred Losses	s adjusted to	ACT 44 Law I	Level and Cl	aim Settleme	nt Levels= A	кв				

A. Medical Reported Incurred Losses as of 04/30/19

#### Coal Mine Compensation Rating Bureau Traumatic Loss Development Incurred Medical Losses for All Classes Combined

Exhibit V-E-1 and Exhibit VI-B-4

2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	1994 3.889,000 4,929,891 5.062,121 5.216,951 5.111,218 5.029,268 5.059,712 5.113,134 5.124,726 5.144,115 5.273,693 5.295,932 5.346,481 5.366,481 5.366,481 5.366,481 5.366,481 5.366,481 5.366,481 5.366,481 5.366,481 5.366,481 5.366,481	4,865,082 4,883,436 4,927,115 4,917,010	1996 4,135,165 4,315,884 4,889,720 4,806,124 4,806,120 4,703,865 4,625,715 4,625,715 4,625,793 4,625,933 4,594,309 4,852,943 4,951,135 4,951,135 4,951,135 4,951,135 4,951,135 4,951,135 4,951,135 4,951,135 4,951,135 4,951,135 4,951,135 4,531,235 4,531,235 4,531,235 4,531,235 4,531,235 4,531,235 4,532,533 4,532,633 4	3,978,305 3,932,216 3,951,475	1998 3,370,548 3,630,642 3,628,890 3,720,868 3,709,153 3,761,263 3,761,263 3,741,005 3,771,626 3,861,559 3,861,559 3,861,559 3,861,559 3,861,569 4,361,569 3,861,569 3	1999 2,714,67 3,012,839 3,186,033 3,057,663 3,188,781 3,178,086 3,133,358 3,171,882 3,236,426 3,236,426 3,237,242 3,531,522 3,531,522 3,531,522 3,532,688 3,533,087 3,533,087 3,534,812 3,534,812 3,534,612		2,816,076 2,896,624 2,822,196 2,789,664 2,782,114 2,879,623 2,963,075 3,005,905 3,012,114 3,143,372 3,237,259 3,220,132 3,006,814	2002 3,150,264 3,609,439 3,762,837 3,890,149 3,874,531 4,191,261 4,257,734 4,339,920 4,145,606 4,160,518 4,164,525 4,194,244 4,185,516 4,205,064 4,205,064 4,202,349 3,961,842	2003 2,579,313 2,812,481 2,794,988 2,756,587 2,912,119 2,899,887 2,897,577 3,110,017 3,103,090 3,209,907 3,209,907 3,209,907 3,209,907 3,209,709 3,209,709 3,151,961	2004 3,189,104 3,185,5290 4,147,713 4,166,709 4,080,336 4,187,418 4,190,701 4,206,298 4,370,336 4,350,145 4,351,280 4,376,582 4,376,582	2005 3,700,850 4,031,513 4,161,949 4,249,331 4,143,155 4,299,151 4,349,353 4,411,495 4,403,570 4,427,072 4,413,282 4,715,281 4,715,272	2006 2,871,86 3,286,804 3,511,501 3,418,585 3,3401,038 3,370,262 3,381,086 3,382,185 3,507,194 3,729,031 3,802,480 3,748,522 3,748,523	2007 5,478,955 5,501,458 5,575,559 5,632,912 5,757,902 5,864,639 5,841,539 5,807,440 5,819,126 5,899,866 5,899,866	2008 3,509,674 3,749,858 3,709,814 3,804,580 3,837,840 3,837,840 3,842,094 3,811,253 3,599,483 3,608,725 3,608,725 3,627,183	2009 2,761,645 3,021,605 2,891,686 2,991,503 2,946,694 2,946,651 3,136,651 3,137,264	2010 3,630,547 3,914,782 4,167,466 4,413,176 4,604,776 4,477,730 4,479,334 4,338,559 4,314,642	2011 4,362,078 5,517,261 5,633,374 5,673,084 5,673,084 6,232,068	2012 4,806,118 5,258,148 5,404,121 5,406,521 5,519,600 5,465,514 5,458,952	2013 3.639,740 4.294,769 4.076,856 3.971,009 4.074,140 4.082,497	2014 6.225.769 6.357,441 6.043,218 5.873,834 5.883,352	2015 4,054,856 3,955,258 3,953,405 3,824,391	2016 3,963,291 4,465,934 4,190,581	2017 6.387.316 5.882.211	2018 5,562,604
B. Ar 1:2 2:3 3:4 4:5 5:6 6:7 7:8 8:9 9:10 10:11 11:12 12:13 13:14 14:15 15:16 16:17 17:18 18:19 19:20	1.0072 0.9754 1.0152 1.0001 1.0180	1.0089 1.0060 1.0038 1.0089 0.9979 1.0731	1,0035 0,9978 1,0066 0,9985 1,0021 1,0028 0,9982	1.0035 1.0054 1.0162 0.9983 1.0062 1.0030 1.0000	0.9953 1.0066 0.9956 1.0000 1.0001 0.9963 0.9992 0.9999 1.0000	0.9988 1.0167 1.0359 1.0003 1.0001 1.0019 1.0000 0.9986 1.00003 1.0001	0.9993 0.9994 1.0245 1.0000 0.9999 1.0199 1.0000 0.9323 1.0000	0.9973 1.0350 1.0290 1.0145 1.0021 1.0436 1.0299 0.9947 0.9338 1.0034	1.0193 0.9552 1.0036 1.0010 1.0071 0.9979 1.0047 0.9924 0.9428 1.0000	0.9993 0.9974 1.0658 1.0097 0.9978 1.0344 1.0000 0.9999 1.0000	0.9876 1.0247 1.0015 1.0008 1.037 1.0390 0.9954 1.0003 1.0059 1.0006	0.9750 1.0377 1.0117 1.0143 0.9982 0.9894 1.0161 0.9969 1.0684 1.0000	0.9735 0.9949 0.9910 1.0032 1.0003 1.0370 1.0633 1.0197 0.9858 1.0000	1.0135 1.0103 1.0222 1.0185 0.9961 1.0186 0.9760 1.0020 1.0139 1.0156	1.0684 0.9893 1.0255 1.0087 1.0011 0.9920 0.9444 1.0026 1.0029 1.0022	1.0941 0.9570 1.0345 0.9973 0.9877 1.0000 1.0136 1.0502 1.0002	1.0783 1.0645 1.0590 1.0434 0.9723 0.9960 0.9729 0.9945	1.2648 1.0210 0.9957 1.0114 0.9966 1.1022 1.0000	1.0941 1.0278 1.0004 1.0209 0.9902 0.9988	1.1800 0.9493 0.9740 1.0260 1.0021	1.0211 0.9506 0.9720 1.0016	0.9754 0.9995 0.9674	1.1268 0.9383	0.9209	
C. Su. 1:2 2:3 3:4 4:5 5:6 6:7 7:8 8:9 9:10 10:11 11:12 12:13 13:14 14:15 15:16 16:17 17:18 18:19 19:20	ummary					10 Year Straight Average 1.0824 0.9911 1.0012 1.0101 0.9985 1.0124 0.9982 1.0078 1.0107 1.0086 1.0115 1.0059 1.0073 0.9829 1.0114 1.0073		Weighted			6 Year Weighted Average 1.0391 0.9817 0.9916 1.0167 0.9916 1.0177 0.9931 1.0044 1.0085 1.0157 1.0072 0.9854 0.9818 1.0138 1.0071 0.9818		Average of Middle Four 1.0646 0.9856 0.9968 1.0133 0.9953 1.0114 0.969 1.0069 1.0068 1.0103 1.0054 1.0067 0.9924 0.9832 1.0102 1.0001 1.0127	E	A. Incurred Lt	s Developm	ent Ratios			lement Leve	is: Exhibit VI-I	<del>3</del> -3			

A. Medical Reported Incurred Losses Adjusted to Act 44 Law Level and Claim Settlement Levels as of 04/30/19

A. A. Hack the Very and Charles and C

#### Coal Mine Compensation Rating Bureau Traumatic Loss Development Medical Claim Settlement Adjustment Factors

Accident <u>Year</u> 1984 1985 1986 1987 1988 1989 1990 1991 <u>1992</u> Total		(2) 12 Month Fay Deven 243 105 222 262 396 532 298 328 437 2,823	(3) (2) / (1) 3.3% 2.3% 4.3% 5.3% 6.9% 6.3% 3.8% 4.8% 8.1% 5.0%	(4) <u>Selection</u> xx  xx  xx  xx  xx  xx  xx  xx  xx	Accident <u>Year</u> 1985 1986 1987 1988 1989 1990 1991 1992 <u>1993</u> Total	(1) 4/30/1995 KD1LOSS*** 4.303 5.166 4.805 5.860 8.842 7.595 7.208 4.462 5.786 54,027	(2) 12 Month Fay Dev™ 199 122 122 161 299 471 83 198 164 1,819	(3)  (2) / (1)  4.6% 2.4% 2.5% 2.7% 3.4% 6.2% 1.2% 4.4% 2.8% 3.4%	(4) Selection xx	Accident Year 1986 1987 1988 1989 1990 1991 1992 1993 1994 Total	(1) 4/30/1996 <u>KPILOSS™</u> 5.126 4.959 5.470 8.720 7.730 7.240 4.458 6.163 4.930 54,796	(2) 12 Month	(3)  (2) / (1)  1.6% 1.5% 8.2% 6.6% 2.8% 3.9% 6.0% 3.1% 4.7% 4.3%	(4) <u>Selection</u> xx  xx  xx  xx  xx  xx  xx  xx  xx	Accident Year 1987 1988 1989 1990 1991 1992 1993 1994 1995 Total	(1) 4/30/1997 KD1.LOSS <sup>CM</sup> 4.895 5.318 8.177 7.929 7.315 4.284 6.061 5.062 4.444 53.485	(2) 12 Month	(3) (2) / (1) 1.9% 3.8% 9.7% 3.5% 1.9% 7.4% 3.6% 3.1% 4.7% 4.5%	Selection  XX  XX  XX  XX  XX  XX  XX  XX  XX
Accident Year 1988 1989 1990 1991 1992 1993 1994 1995 1996 Total		(2) 12 Month Fav Dev <sup>(a)</sup> 70 321 436 173 85 194 77 272 87 1,715	(3) (2) / (1) 1.3% 4.0% 5.6% 2.4% 1.9% 3.2% 1.5% 6.2% 2.0% 3.3%	(4) <u>Selection</u> xx  xx  xx  xx  xx  xx  xx  xx  xx	Accident <u>Year</u> 1989 1990 1991 1992 1993 1994 1995 1996 <u>1997</u> Total	(1) 4/30/1999 Rpl.Loss <sup>(c)</sup> 8,525 7,726 7,140 2,428 5,804 5,111 4,294 4,690 <u>xx</u> 45,718	(2) 12 Month Fav Dev <sup>(a)</sup> 96 83 208 74 322 198 164 106 <u>XX</u> 1,251	(3)  (2) / (1)  1.1%  1.1%  2.9%  3.0%  5.5%  3.9%  3.8%  2.3%  ××  2.7%	(4) Selection xx xx xx xx xx xx xx xx 1.5%	Accident Year 1990 1991 1992 1993 1994 1995 1996 1997 1998 Total	(1) 4/30/2000 Rp1.Loss <sup>(0)</sup> 7.808 7.176 2.327 5,767 5,029 4.416 4.808 xx xx 37.331	(2) 12 Month Fav Dev <sup>(a)</sup> 52 15 125 161 130 97 119 xx xx 699	(3) (2) / (1) 0.7% 0.2% 5.4% 2.8% 2.6% 2.2% 2.5%  xx  1.9%	(4) Selection xx	Accident <u>Year</u> 1991 1992 1993 1994 1995 1996 1997 1998 1999 Total	(1) 4/30/2001 Rpt.Loss <sup>(c)</sup> 7,348 2,286 5,730 5,060 4,484 4,806 ×x ×x ×x 29,714	(2) 12 Month Fav Dev <sup>(a)</sup> 85 86 77 29 150 187 xx xx xx 614	(3)  (2) / (1)  1.2% 3.8% 1.3% 0.6% 3.3% 3.9% ×× ×× ×× ×× 2.1%	Selection  XX  XX  XX  XX  XX  XX  XX  XX  XX
Accident Year 1992 1993 1994 1995 1996 1997 1998 1999 2000 Total	(1) 4/30/2002 R01.Loss <sup>(a)</sup> 2,939 5,812 5,113 4,667 4,704 xx xx xx xx 23,235	(2) 12 Month Fav Dev <sup>(a)</sup> 16 57 40 101 242 xx xx xx xx 456	(3) (2) / (1) 0.5% 1.0% 0.8% 2.2% 5.1% xx xx xx xx 2.0%	Selection  XX  XX  XX  XX  XX  XX  XX  XX  XX	Accident Year 1993 1994 1995 1996 1997 1998 1999 2000 2001 Total	(1) 4/30/2003 <u>Rpt.Loss <sup>[c1]</sup></u> 5,971 5,125 4,706 4,578 ×x ×x ×x ×x ×x ×x 20,380	(2) 12 Month Fav Dev <sup>(a)</sup> 0 0 145 xx xx xx xx xx 145	(3)  (2) / (1) 0.0% 0.0% 0.0% 3.2% ×× ×× ×× ×× ×× ×× ×× 0.7%	Selection xx	Accident Year 1994 1995 1996 1997 1998 1999 2000 2001 2002 Total	(1) 4/30/2004 Rpt.Loss <sup>[0]</sup> 5.179 4.740 4.702 xx xx xx xx xx xx xx 14.621	(2) 12 Month Fav Dev <sup>(a)</sup> 59 83 32 xx xx xx xx xx xx 174	(3)  (2) / (1)  1.1%  1.8%  0.7%  xx  xx  xx  xx  xx  1.2%	(4)  Selection	Accident Year 1995 1996 1997 1998 1999 2000 2001 2002 2003 Total	(1) 4/30/2005 <u>Rpt.Loss <sup>[0]</sup></u> 4,669 4,626 xx xx xx xx xx xx xx xx xx xx 22 9,295	(2) 12 Month Fav Dev <sup>[a]</sup> 0 0  xx xx xx xx xx xx xx xx	(3)  (2) / (1)  0.0%  0.0%  xx  xx  xx  xx  xx  xx  xx  xx	(4)  Selection  XX  XX  XX  XX  XX  XX  XX  XX  XX
Accident <u>Year</u> 1996 1997 1998 1999		(2) 12 Month Fav Dev <sup>(a)</sup> 25 0 xx	(3) (2) / (1) 0.5% xx xx	(4)  Selection  xx  xx  xx	Accident <u>Year</u> 1997 1998 1999	(1) 4/30/2007 Rpt.Loss <sup>(a)</sup> xx xx	(2) 12 Month Fav Dev <sup>(a)</sup> xx xx	(3) (2) / (1)	(4)  Selection  xx  xx  xx	Accident <u>Year</u> 1998 1999 2000	(1) 4/30/2008 <u>Rpt.Loss<sup>(a)</sup></u> xx xx	(2) 12 Month Fav Dev <sup>(a)</sup> xx xx xx	(3) (2) / (1)	(4)  Selection  xx  xx  xx	Accident <u>Year</u> 1999 2000 2001	(1) 4/30/2009 Rpt.Loss <sup>(a)</sup> xx xx	(2) 12 Month Fav Dev <sup>(a)</sup> xx xx xx	(3) (2) / (1)	(4)  Selection  xx  xx  xx

<sup>(</sup>a) All amounts are in thousands of dollars Incurred losses for 1992 exclude effects of large loss.

Note: Personnel from the CMCRB have concluded that the impact of Act 57 has waned to the point that the Claim Settlement effect for this year and future years is zero(0.00). Thus this Exhibit will no longer be updated.

Sources: Column (1) Exhibit VI-B p. 1a CMCRB Data Base

#### Traumatic Loss Development Incurred Indemnity and Funeral Claim Counts for All Classes Combined (excl. USLH)

					curred Inc	demnity o	ınd Funero	al Claim C	Counts for	All Classe	s Combin	ed (excl.	USLH)						
Report 1 1 2 3 4 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19	ty Reported Inc. ye 2000 263 240 269 250 272 252 274 254	2001 227 238 237 237 237 237 237 237 237 237 237 237	2002 241 244 246 246 246 246 246 246 246 246 246	2003 196 196 197 198 199 199 199 199 199 199 199 199 199	2004 219 227 230 231 231 231 231 231 231 231 231 231 231	2005 203 228 229 230 230 230 230 230 230 230 230 230 230	2006 156 163 165 166 166 166 166 166 166 166 166 166	2007 163 164 164 164 164 164 164 164 164 164	2008 193 206 203 205 204 204 204 204 204 204 204	2009 170 193 195 195 195 195 195 195 195 195	2010 168 177 177 177 177 177 177 177 177	2011 175 182 188 189 189 189 189	2012 169 195 199 200 200 200 201	2013 149 171 174 175 175 175 175	2014 258 286 289 290 290	2015 161 181 184 186	2016 140 147 149	2017 159 168	2018 150
1:2 2:3 3:4 4:5 5:6 6:7 7:8 8:9 9:10 10:11 1:12 10:12 13:14 1.0 15:16 10:17 17:18 1.0 18:19 19:20 1.0	1.0000 1.0000	1.0000	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	1.0061 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	1,0674 0,9854 1,0099 0,9951 1,0000 1,0000 1,0000 1,0000 1,0000	1.1353 1.0104 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	1.0536 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	1.0400 1.0330 1.0053 1.0000 1.0000 1.0000 1.0000	1.1538 1.0205 1.0050 1.0000 1.0000 1.0050	1.1477 1.0175 1.0057 1.0000 1.0000	1.1085 1.0105 1.0035 1.0000	1.1242 1.0166 1.0109	1.0500 1.0136	1.0566	
C. Summ 10 Ye Straig  Avera 1:2 1.0' 2:3 1.0 3:4 1.0 4:5 0.9' 5:6 1.00 6:7 1.00 7:8 1.00 9:10 1.00 10:11 1.00 11:12 1.00 12:13 1.00 13:14 1.00 14:15 1.00 15:16 1.00 16:17 1.00 16:17 1.00 18:19 1.00	ar 6 Year ht Straight ge Average 7 1.1068 808 1.0186 1.0051 1.0000		10 Year Average / ex. Hi&Lo ex. Hi&L				werage f Middle Four 1.1007 1.0143 1.0048 1.0000		elected 1.1007 1.0143 1.0048 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	negati Dele	CACPS DO		1.1222 1.0196 1.0052 1.0004 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000		2018 2017 2016 2015 2014 2013 2012 2011 2010 2009 2008 2007 2006 2005 2004 2003 2002 2001 2000 1999	Ultimate 168 171 150 186 290 175 201 189 177 195 204 164 166 230 231 199 246 237 254 274			

Source: A. Loss Development Data: CMCRB Database as of 04/30/19 - Validated 08/06/19

B. Annual Loss Development Ratios

#### Coal Mine Compensation Rating Bureau **Traumatic Loss Development**

Medical Only Claim Counts for All Classes Combined (excl. USLH)

			Medical Only Claim	Counts for All Clas	ses Combined	(excl. USLH)				
A. Medical Only Reprint Report 1999 1 641 2 640 3 641 4 641 5 643 6 643 7 643 8 643 9 643 10 643 11 643 12 643 13 643 14 643 15 643 15 643 17 643 18 643 17 643 18 643 19 643 20 643	rted Incurred Claims Valued at 2000 2001 2002 488 519 487 500 534 499 503 500 498 535 500 498 500 498 535 500 498 500 400 400 400 400 400 400 400 400	2003         2004           453         516           462         524           461         523           461         522           461         522           461         522           461         522           461         522           461         522           461         522           461         522           461         522           461         522           461         522           461         522           461         522           461         522           461         522           461         522           461         522           461         522	2005         2006           476         456           479         450           479         450           479         450           479         450           479         450           479         450           479         450           479         450           479         450           479         450           479         450           479         450           479         450           479         450           479         450           479         450           479         450           479         450           479         450	2007         2008           488         523           494         528           495         527           495         528           495         528           495         528           495         528           495         528           495         528           495         528           495         528           495         528           495         528           495         528           495         528           495         528           495         528           495         528           495         528           495         528           495         528	479 469 469 469 469 469 469	2010 2011 201 559 628 56 560 632 55 559 627 55	3 472 4 477 3 478 3 478 3 478 3 478 3 479	2014 2015 592 402 583 397 581 397 580 396 581	2016 295 304 303	2017 2018 321 297 327
10:11 1.0000 1 11:12 1.0000 1 12:13 1.0000 1 13:14 1.0000 1 14:15 1.0000 1 15:16 1.0000 1 16:17 1.0000 1 17:18 1.0000 1	1,0000 1,	1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000 1,0000	0.9978 1.0000	1.0020 1.0019 1.0000 0.9981 1.0000 1.0019 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	0.9791 1.00 1.0000 0.9 1.0000 1.00 1.0000 1.00 1.0000 1.00 1.0000 1.00 1.0000 1.00 1.0000 1.00 1.0000 1.00 1.0000 1.00	1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000	2 1.0021 0 1.0000 0 1.0000 0 1.0021	0.9848 0.9925 0.9966 0.9950 0.9983 0.9975 1.0017	1.0305 1 0.9967	.0187
Average Aver 1:2 1.0016 1. 2:3 0.9983 0. 3:4 0.9992 0. 4:5 1.0004 1. 5:6 1.0002 1. 6:7 0.9998 0. 7:8 1.0000 1. 8:9 1.0000 1. 1:112 1.0000 1. 1:112 1.0000 1. 1:112 1.0000 1. 1:115 1.0000 1. 1:115 1.0000 1. 1:116 1.0000 1. 1:118 1.0000 1. 1:118 1.0000 1. 1:118 1.0000 1. 1:118 1.0000 1. 1:118 1.0000 1. 1:118 1.0000 1. 1:118 1.0000 1. 1:118 1.0000 1. 1:118 1.0000 1. 1:118 1.0000 1. 1:118 1.0000 1. 1:118 1.0000 1. 1:119 1.0000 1. 1:119 1.0000 1. 1:119 1.0000 1. 1:119 1.0000 1. 1:119 1.0000 1. 1:119 1.0000 1. 1. 1:119 1. 1:119 1.0000 1. 1. 1:119 1. 1:119 1. 1:119 1. 1:119 1. 1:119 1. 1:119 1. 1:119 1. 1:119 1. 1:119 1.	ght Weighted Average	ex. Hi&Lo         Average           1.0017         0.9996           0.9966         0.9966           0.9997         0.9994           1.0000         1.0003           1.0000         1.0003           1.0000         1.0000           1.0000         1.0000           1.0000         1.0000           1.0000         1.0000           1.0000         1.0000           1.0000         1.0000           1.0000         1.0000           1.0000         1.0000           1.0000         1.0000           1.0000         1.0000           1.0000         1.0000           1.0000         1.0000           1.0000         1.0000           1.0000         1.0000           1.0000         1.0000           1.0000         1.0000	Average of Middle Four 1.0009 0.9975 0.9993 1.0003 1.0000	Selected 1.0000		Cumulai 1.000		Acc. Year 1 2018 2017 2016 2015 2014 2013 2012 2011 2010 2009 2008 2007 2006 2005 2004 2003 2002 2001 2000 1999	297 327 303 396 581 479 552 627 559 469 528 495 450 479 522 461 500 535 498 643	

Medical Only claims are defined as claims with Medical Incurred dollars greater than zero and Indemnity Incurred dollars equal to zero. Exhibit VI-C-2

Source: A. Loss Development Data: CMCRB Database as of 04/30/19 - Validated 08/06/19

B. Annual Loss Development Ratios

#### Exhibit VI-C-3

## Coal Mine Compensation Rating Bureau Traumatic Loss Development

#### Medical Only Incurred for All Classes Combined (excl. USLH)

A. N	ledical Only	Reported Inc	curred Losses	Valued as c	of 04/30/19			,				(	,							
Report 1 2 3 4 5 6 7 8 9 10	1999 458,539 407,349 409,094 409,095 409,426 409,426 409,426 405,010 405,010	2000 315,407 296,698 300,203 304,117 304,601 305,104 305,104 305,104 305,104	2001 291,102 341,613 340,771 341,085 341,085 341,085 341,085 347,675 347,675 347,675	2002 326,965 354,474 351,193 343,963 345,393 345,393 345,393 345,393 345,393 345,393	2003 344,009 343,651 342,029 346,252 346,252 346,252 346,252 346,252 346,318 346,318	2004 440,355 489,659 499,930 499,175 499,175 499,175 499,182 499,182 499,182	2005 393,342 395,971 570,553 577,565 577,565 577,565 439,393 439,393 439,463	2006 475,073 492,413 464,396 464,210 464,210 464,210 464,210 464,210 464,210 464,210	2007 645,531 667,028 651,680 654,006 657,948 663,201 663,201 663,201 663,201	2008 538,996 564,408 574,474 561,921 569,251 578,077 584,120 586,976 593,200 600,587	2009 499,273 475,294 487,309 487,349 487,454 487,454 487,454 487,454 487,454 488,067	2010 689,845 712,909 72,324 732,324 732,324 732,324 732,324 732,324 732,324	2011 830,417 864,057 846,540 850,074 851,341 851,341 851,341	2012 740,247 723,464 709,906 710,429 710,507 710,586 680,951	2013 657,505 724,288 754,367 754,990 755,607 756,064	2014 844,733 817,585 819,307 806,211 807,295	2015 693,513 644,826 617,302 611,456	2016 566,845 559,034 541,639	2017 708,070 748,018	2018 617,296
B. A 1:2 2:3 3:4 4:5 5:6 6:7 7:8 8:9 9:10	nnual Loss D	evelopment 1.0000	1.0000	1.0000 1.0000 1.0000	1.0000 1.0000 1.0002 1.0000	1.0000 1.0000 1.0000 1.0000 1.0000	1.0000 1.0000 1.0000 0.7608 1.0000 1.0002	0.9996 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	0.9770 1.0036 1.0060 1.0080 1.0000 1.0000 1.0000	1.0471 1.0178 0.9781 1.0130 1.0155 1.0105 1.0049 1.0106 1.0125	0.9520 1.0253 1.0001 1.0002 1.0000 1.0000 1.0000 1.0000 1.0013	1.0334 1.0272 1.0000 1.0000 1.0000 1.0000 1.0000	1.0405 0.9797 1.0042 1.0015 1.0000 1.0000	0.9773 0.9813 1.0007 1.0001 1.0001 0.9583	1.1016 1.0415 1.0008 1.0008 1.0006	0.9679 1.0021 0.9840 1.0013	0.9298 0.9573 0.9905	0.9862 0.9689	1.0564	
	•	Straight V	10 Year Veighted <i>A</i> Average 6 1.0095	_	Average V	-		Average of Middle Four 1.0054	<u>s</u>	<u>elected</u> 1.0054			<u>(</u>	Cumulative 1.0054	<u>!</u>	A	<u>scc. Year</u> 2018	<u>Ultimate</u> 620,629		

	10 Year	6 Year	10 Year	10 Year	6 Year	6 Year	Average				
	Straight	Straight	Weighted	Average	Average	Weighted	of Middle				
	<u>Average</u>	<u>Average</u>	<u>Average</u>	ex. Hi&Lo	ex. Hi&Lo	<u>Average</u>	<u>Four</u>	<u>Selected</u>	<u>Cumulative</u>	Acc. Year	<u>Ultimate</u>
1:2	1.0092	1.0032	1.0095	1.0076	0.9970	1.0015	1.0054	1.0054	1.0054	2018	620,629
2:3	0.9978	0.9885	0.9973	0.9974	0.9830	0.9898	0.9933	1.0000	1.0000	2017	748,018
3:4	0.9962	0.9967	0.9963	0.9974	0.9980	0.9968	0.9968	1.0000	1.0000	2016	541,639
4:5	1.0023	1.0007	1.0022	1.0012	1.0006	1.0007	1.0012	1.0000	1.0000	2015	611,456
5:6	1.0024	1.0027	1.0023	1.0011	1.0002	1.0023	1.0020	1.0000	1.0000	2014	807,295
6:7	0.9969	0.9948	0.9960	1.0000	1.0000	0.9941	0.9969	1.0000	1.0000	2013	756,064
7:8	0.9766	1.0008	0.9756	1.0000	1.0000	1.0008	0.9943	1.0000	1.0000	2012	680,951
8:9	1.0011	1.0018	1.0013	1.0000	1.0000	1.0018	1.0010	1.0000	1.0000	2011	851,341
9:10	1.0014	1.0023	1.0018	1.0002	1.0004	1.0026	1.0015	1.0000	1.0000	2010	732,331

Source: A. Loss Development Data: CMCRB Database as of 04/30/19 - Validated 08/06/19

B. Annual Loss Development Ratios

C, Summary of Straight Averages for 10 and 6 years,

## Coal Mine Compensation Rating Bureau Traumatic - Medical Losses Summary of Adjustments to Development Factors for Act 44#

												Accio	lent Yec	<u>ır</u>											
Report	1994	1995	<u>1996</u>	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1	0.9773		1.0000			1.0000				1.0000													1.0000	1.0000	1.0000
2	0.9908	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
3	0.9961	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		
4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000			
5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000				
6	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000					
7	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000						
8	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000							
9	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000								
10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000									
11	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000										
12	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000											
13	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000												
14	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000													
1.5	1.0000	1.0000	1.0000			1.0000	1.0000	1.0000	1.0000	1.0000	1.0000														
16	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000															
17	1.0000	1.0000	1 0000	1 0000	1.0000	1.0000	1.0000	1.0000	1.0000																
18	1.0000		1.0000	1.0000		1.0000		1.0000																	
19	1.0000		1.0000	1.0000	1.0000	1.0000	1.0000																		
20			1.0000																						

Source: Unity adjustments for Accident Years 1995 and subsequent
Adjustments for Accident Year 1994 from prior filing (Proposal CM-2-2018) – Exhibit VI-D Page 2

<sup>#</sup> Adjustments to development factors applicable to medical loss evaluated as of 04/30/2019 Act 44 became effective in 1993.

# Coal Mine Compensation Rating Bureau Traumatic - Medical Losses Derivation of Act 44 Adjustments for Various Accident Years and Sample Payment Patterns

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Run Date: August 22, 2019 - 03:35:45 PM

#### Coal Mine Compensation Rating Bureau Traumatic Loss Development Paid Losses for All Classes Combined

Indemnity and Funeral Reported Paid Losses as of 04/30/19

16 8,264,818 8,742,665 8,050,069 7,481,735 8,142,053 11,400,129 7,016,692

7,481,735

8,205,378 11,418,631

8,226,812

Report	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1			1,519,950	1,745,062	1,453,835	2,265,522	1,499,127	1,585,758	2,123,723	1,424,937	1,477,485	1,883,649	1,490,981	1,524,765	1,786,240	2,050,254	1,899,710	4,015,185	2,666,351	2,517,576	2,656,641	2,186,695
2		3,416,410	3,017,821	3,311,393	3,447,824	4,498,717	2,589,720	3,607,906	4,763,116	3,031,492	2,973,005	3,608,322	2,864,778	3,435,863	3,977,654	5,436,521	4,482,404	7,405,014	6,101,619	5,232,352	5,222,275	
3	4,858,303	5,057,380	4,474,822	5,285,169	5,249,852	6,269,556	4,097,105	5,068,968	6,595,737	3,990,338	4,078,233	5,798,309	4,380,163	4,339,688	6,103,091	7,383,427	6,081,014	10,801,053	7,572,770	6,951,711		
4	5,469,765	5,832,214	6,135,793	5,944,494	6,234,883		5,182,592				5,032,592		4,536,641	6,078,298	7,555,055	8,102,574	6,502,458	11,716,598	9,243,177			
5	6,279,802	6,733,975	6,807,415	6,698,701	6,774,208	8,517,965	5,654,435	6,488,204	8,470,539	4,894,518	5,362,003	6,986,131	4,912,891	6,374,543	7,923,836	8,850,340	6,652,885	12,157,797				
6	7,170,191	7,213,884	7,415,056	7,237,063	6,969,310	9,582,098	6,009,319	6,696,634	8,926,585	4,966,788	5,648,220	7,214,898	5,041,132	6,690,310	8,262,491	9,105,598	7,003,338					
7	7,497,940	7,570,855	7,496,955	7,283,059	7,402,247	9,706,503	6,156,138	6,907,738	9,168,385	4,991,574	5,900,930	7,644,898	5,082,350	7,001,167	8,313,908	9,298,463						
8	7,533,377	7,822,684	7,575,369	7,329,084	7,611,242	10,138,868	6,524,987	6,965,528	9,422,725	5,014,153	5,986,526	7,907,461	5,123,568	7,146,676	8,347,645							
9	7,615,032	8,111,694	7,654,237	7,462,119	7,653,900	10,368,436	6,705,837	7,020,184	9,810,124	5,059,383	6,164,246	8,052,763	5,164,786	7,433,505								
10	7,701,086	8,184,230	7,731,940	7,468,382	7,721,764	10,619,368	6,755,866	7,139,264	9,993,283	5,160,329	6,244,573	8,342,088	5,206,003									
11	7,791,027	8,357,349	7,805,017	7,474,646	7,789,732	10,873,650	6,839,005	7,190,739	10,178,581	5,422,689	6,340,857	8,901,130										
12	8,001,766	8,408,704	7,879,189	7,480,909	7,855,086	11,009,570	6,873,904	7,236,947	10,392,475	5,671,285	6,488,602											
13	8,057,267	8,460,058	8,038,850	7,481,735	7,919,766	11,120,644	6,908,899	7,276,930	10,542,895	5,694,209												
14	8,118,370	8,717,825	8,050,069				6,946,798	7,319,605	10,679,371													
15	8,170,070	8,731,745	8,050,069	7,481,735	8,115,379	11,305,361	6,981,697	7,362,281														

#### Medical Reported Paid Losses as of 04/30/19

18 8,329,900 8,764,505 8,050,069 7,481,735

19 8,366,436 8,772,505 8,050,069 7,481,735

8,050,069

8,297,379 8,753,585 8,050,069

8,407,385 8,772,260

17

19

D	1007	1000	1000	0000	0001	0000	0000	0004	0005	0007	0007	0000	0000	0010	0011	0010	0010	0014	0015	0017	0017	0010
Report	<u>1997</u>	<u>1998</u>	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
- 1			1,804,774	1,676,127	1,421,461	2,013,689	1,481,566	2,435,389	2,520,705	1,948,500	3,239,013	2,201,565	1,934,714	2,751,976	3,211,934	3,607,221	2,405,205	3,932,999	2,543,986	2,330,259	3,485,615	3,818,681
2		2,809,039	2,438,735	2,184,303	2,027,699	2,673,510	2,121,377	3,067,832	3,289,523	2,697,293	4,228,737	3,040,747	2,474,907	3,388,757	4,428,864	4,556,072	3,576,391	5,142,203	3,295,697	3,381,307	4,550,558	
3	2,949,746	3,069,291	2,657,295	2,352,615	2,236,309	3,007,596	2,326,077	3,293,472	3,433,690	2,989,067	4,505,191	3,288,243	2,729,947	3,681,854	4,791,312	4,910,148	3,732,065	5,725,513	3,579,670	3,601,813		
4	3,057,875	3,187,684	2,844,763	2,491,759	2,326,207	3,216,844	2,429,794	3,868,121	3,535,900	3,075,764	4,755,842	3,434,618	2,838,307	4,050,370	4,980,927	5,036,044	3,783,913	5,806,872	3,711,776			
5	3,213,618	3,334,465	3,021,424	2,617,138	2,425,392	3,378,060	2,544,069	3,923,267	3,673,096	3,157,818	4,895,811	3,482,499	2,888,987	4,182,550	5,232,645	5,071,629	3,837,635	5,825,434				
6	3,474,497	3,457,200	3,075,426	2,673,929	2,495,415	3,495,984	2,582,303	3,963,617	3,920,165	3,202,045	5,005,959	3,502,704	2,911,117	4,258,152	5,334,986	5,142,197	3,895,586					
7	3,596,616	3,495,355	3,097,474	2,698,511	2,581,983	3,544,378	2,683,561	4,005,779	4,000,731	3,238,455	5,123,649	3,511,257	2,933,165	4,295,252	5,480,157	5,165,531						
8	3,648,054	3,506,028	3,138,912	2,715,033	2,622,094	3,699,439	2,709,624	4,053,658	4,067,412	3,238,035	5,214,054	3,521,293	2,960,275	4,307,948	5,547,144							
9	3,735,279	3,530,921	3,214,245	2,725,884	2,671,237	3,711,954	2,751,055	4,069,440	4,101,236	3,301,685	5,294,667	3,531,557	2,993,791	4,313,892								
10	3,787,156	3,552,363	3,235,670	2,764,209	2,715,237	3,727,842	2,775,526	4,099,493	4,121,749	3,378,839	5,339,901	3,544,208	3,030,936									
11	3,998,545	3,612,059	3,271,628	2,785,789	2,768,418	3,738,687	2,801,700	4,156,729	4,152,472	3,500,778	5,404,879	3,552,431										
12	4,026,401	3,625,447	3,339,216	2,791,316	2,821,879	3,760,085	2,830,668	4,186,218	4,188,666	3,554,600	5,505,708											
13	4,068,692	3,640,675	3,530,763	2,794,972	2,865,653	3,783,035	2,860,666	4,197,884	4,398,535	3,591,568												
14	4,106,625	3,686,245	3,531,885	2,799,305	2,899,480	3,795,599	2,889,252	4,212,622	4,408,224													
15	4,152,798	3,716,598	3,532,238	2,823,807	2,925,169	3,944,740	2,926,491	4,228,643														
16	4,235,368	3,733,612	3,532,944	2,831,581	2,939,820	3,961,842	2,943,126															

Source: CMCRB Database as of 04/30/19 - Validated 08/06/19

4,268,527 3,750,418 3,533,634 2,872,279 3,006,814 3,961,842

2,872,279

4,309,577 3,764,284 3,533,807 2,872,279 3,017,086

4,343,956 3,772,745 3,534,720

4,370,845 3,774,660 3,535,038

	<u>\$</u>	State O.D.		<u> </u>	Federal Excess	
(a) After AMA Guidelines	<u>Base</u>	<u>All PP</u>	Weighted 100%-0%	<u>Base</u> (a) After AMA (	<u>All PP</u> Guidelines	Weighted 100%-0%
<ul><li>(1) Number of Claims</li><li>(2) Average Amounts</li><li>(3) Index (Base)</li></ul>	# 9 \$787,252 100%	\$447,311	\$787,252 100.0000%	# 9 \$117,642 100%	\$269,233	\$117,642 100.0000%
(b) Social Security Offset				(b) Social Secu	urity Onset	
<ul><li>(1) Total (including above)</li><li>(2) Difference- Social Security</li><li>(Federal= b-1 minus a-2)</li></ul>	- \$65,264	- \$0	- \$65,264	\$125,347 7,705	\$269,233 0	\$125,347 7,705
(3) Index (to a(2)) (4) Complement	8.2901% 91.7099%	0.0000% 100.0000%	8.2901% 91.7099%	6.5495% 93.4505%	0.0000% 100.0000%	6.5495% 93.4505%
(c) Pension Offset (after Social Se	ecurity Offset)			(c) Pension On	<u>iset</u>	
<ul><li>(1) Total (including above)</li><li>(2) Difference</li><li>(Federal= c-1 minus b-1)</li></ul>	- \$120,792	- \$54,808	- \$120,792	\$164,752 39,405	\$276,545 7,312	\$164,752 39,405
<ul><li>(3) % Pension (VII-G, P. 2)</li><li>(4) Net Pension</li><li>(5) Index (to a-2)</li><li>(6) Complement</li></ul>	12.50% 15,099 1.9179% 98.0821%	12.50% 6,851 1.5316% 98.4684%	12.50% 15,099 1.9179% 98.0821%	12.50% 4,926 4.1870%	12.50% 914 0.3395%	12.50% 4,926 4.1870%
(d) Combined Social Security and			90.002170	(d) Combined S	Social Sec, Per	nsion Onsets
(1) Average Amounts (b-2 plus c-4)	\$80,363	\$6,851	\$80,363	\$12,631	\$914	\$12,631
(2) Index (to a-2) (3) Complement (4) Total Average	10.2080% 89.7920% 706,889	1.5316% 98.4684% 440,460	10.2080% 89.7920% 706,889	Factor		10.7365% 110.7365% 130,273
(e) Wage Level Decrease				(e) Wage Leve	l Increase	
<ul><li>(1) Percentage from Exhibit VI</li><li>(2) Complement</li><li>(3) Dollar Decrease</li><li>(4) Factor</li></ul>	l-G, Page 1		0.0000% 100.0000% 0	Dollar Increase	3	\$0 100.0000%
(f) Combined Social Security, Per	sion and Wage	Level		(f) Combined P	<u>'ercentage</u>	
<ul><li>(1) Percentage level Excl. AMA</li><li>(2) AMA Guidelines (a-3)</li><li>(3) Full Effect of Act 57 (1 X 2)</li></ul>	•	3 times e-2)	89.7920% 100.0000% 89.7920%	(d-3) times (e-4	4)	110.7365% 100.0000% 110.7365%
(4) Percentage Decrease			10.2080%	Increase		10.7365%
(g) Combined Dollar Effect						
(1) (d-1) plus (e-3) Decrease (2) Average after Act 57 (a-2 p	lus or minus g-	1)	\$80,363 \$706,889	Increase		\$12,631 \$130,273

	<u> </u>	State O.D.		<u> </u>	ederal Excess	
	<u>Base</u>	All PP	Weighted 100%-0%	<u>Base</u>	<u>All PP</u>	Weighted 100%-0%
(a) After AMA Guidelines				(a) After AMA (	<u>Guidelines</u>	
(1) Number of Claims	# 61			# 61		
(2) Average Amounts	\$307,965	\$273,551	\$307,965	\$233,231	\$247,213	\$233,231
(3) Index (Base)	100%		100.0000%	100%		100.0000%
(b) Social Security Offset				(b) Social Secu	rity Onset	
(1) Total (including above)	-	-	-	\$240,466	\$253,830	\$240,466
(2) Difference- Social Security	\$25,750	\$16,172	\$25,750	7,235	6,617	7,235
(Federal= b-1 minus a-2)						
(3) Index (to a(2))	8.3613%	5.9119%	8.3613%	3.1021%	2.6766%	3.1021%
(4) Complement	91.6387%	94.0881%	91.6387%	96.8979%	97.3234%	96.8979%
(c) Pension Offset (after Social Se	ecurity Offset)			(c) Pension On	<u>set</u>	
(1) Total (including above)	_	_	_	\$268,881	\$276,445	\$268,881
(2) Difference	\$79,364	\$70,063	\$79,364	28,415	22,615	28,415
(Federal= c-1 minus b-1)	, ,,,,	, ,,,,,,	, -,	-, -	,-	-,
(3) % Pension (VII-G, P. 2)	12.50%	12.50%	12.50%	12.50%	12.50%	12.50%
(4) Net Pension	9,921	8,758	9,921	3,552	2,827	3,552
(5) Index (to a-2)	3.2213%	3.2016%	3.2213%	1.5229%	1.1435%	1.5229%
(6) Complement	96.7787%	96.7984%	96.7787%			
(d) Combined Social Security and	Pension Offset	<u>s</u>		(d) Combined S	Social Sec, Per	sion Onsets
(1) Average Amounts (b-2 plus c-4)	\$35,671	\$24,930	\$35,671	\$10,787	\$9,444	\$10,787
(2) Index (to a-2)	11.5826%	9.1134%	11.5826%			4.6250%
(3) Complement	88.4174%	90.8866%	88.4174%	Factor		104.6250%
(4) Total Average	272,295	248,621	272,295	i dotoi		244,018
(e) Wage Level Decrease				(e) Wage Leve	I Increase	
(1) Percentage from Exhibit VII	-G, Page 1		0.0000%			
(2) Complement			100.0000%			
(3) Dollar Decrease			0	Dollar Increase		\$0
(4) Factor						100.0000%
(f) Combined Social Security, Pen	sion and Wage	Level		(f) Combined P	ercentage	
(1) Percentage level Evel AMA	Cuidolinos (d.)	2 times = 2\	88.4174%			104.6250%
<ul><li>(1) Percentage level Excl. AMA</li><li>(2) AMA Guidelines (a-3)</li></ul>	Culueilles (u-	5 uiiies e-2)	100.0000%			104.6250%
(3) Full Effect of Act 57 (1 X 2)			88.4174%			104.6250%
(4) Percentage Decrease			11.5826%	Increase		4.6250%
(g) Combined Dollar Effect						
(1) (d-1) plus (e-3)			\$35,671	Increase		\$10,787
(2) Average after Act 57 (a-2 pl	lus or minus g-1	1)	\$272,295			\$244,018

	<u> </u>	State O.D.			Federal Excess	
	Base	All PP	Weighted 100%-0%	Base	All PP	Weighted 100%-0%
(a) After AMA Guidelines	<u>Dase</u>	AILEE	100 /0-0 /0	(a) After AMA		100 /0-0 /0
				•		
(1) Number of Claims	# 37			# 37		
(2) Average Amounts	\$533,892	\$360,614	\$533,892	\$63,234	\$138,945	\$63,234
(3) Index (Base)	100%		100.0000%	100%		100.0000%
(b) Social Security Offset				(b) Social Sec	urity Onset	
(1) Total (including above)	-	-	_	\$66,210	\$138,983	\$66,210
(2) Difference- Social Security	\$14,410	\$4,165	\$14,410	2,976	38	2,976
(Federal= b-1 minus a-2)						
(3) Index (to a(2))	2.6990%	1.1550%	2.6990%	4.7063%	0.0273%	4.7063%
(4) Complement	97.3010%	98.8450%	97.3010%	95.2937%	99.9727%	95.2937%
(c) Pension Offset (after Social Se	ecurity Offset)			(c) Pension Or	<u>nset</u>	
(1) Total (including above)	_	_	_	\$83,095	\$151,465	\$83,095
(2) Difference	\$107,372	\$78.357	\$107,372	16,885	12,482	16,885
(Federal= c-1 minus b-1)	Ψ.σ.,σ.2	ψ. ο,σσ.	ψ.σ.,σ. <u>z</u>	10,000	.2, .02	.0,000
(3) % Pension (VII-G, P. 2)	12.50%	12.50%	12.50%	12.50%	12.50%	12.50%
(4) Net Pension	13,422	9,795	13,422	2,111	1,560	2,111
(5) Index (to a-2)	2.5139%	2.7161%	2.5139%	3.3378%	1.1229%	3.3378%
(6) Complement	97.4861%	97.2839%	97.4861%			
(d) Combined Social Security and	Pension Offset	<u>s</u>		(d) Combined	Social Sec, Per	nsion Onsets
(1) Average Amounts	\$27,832	\$13,960	\$27,832	\$5,087	\$1,598	\$5,087
(b-2 plus c-4)						
(2) Index (to a-2)	5.2129%	3.8711%	5.2129%			8.0441%
(3) Complement	94.7871%	96.1289%	94.7871%	Factor		108.0441%
(4) Total Average	506,061	346,654	506,061			68,321
(e) Wage Level Decrease				(e) Wage Leve	l Increase	
(1) Percentage from Exhibit VI	I-G. Page 1		0.0000%			
(2) Complement	· -, · -g- ·		100.0000%			
(3) Dollar Decrease			0	Dollar Increase	Э	\$0
(4) Factor						100.0000%
(f) Combined Social Security, Per	nsion and Wage	Level		(f) Combined F	Percentage	
(1) 5		0.11	04.70740/			400.04440/
<ul><li>(1) Percentage level Excl. AM/</li><li>(2) AMA Guidelines (a-3)</li></ul>	A Guidelines (d-	3 times e-2)	94.7871% 100.0000%			108.0441% 100.0000%
(3) Full Effect of Act 57 (1 X 2)			94.7871%			108.0441%
(4) Percentage Decrease	,		5.2129%	Increase		8.0441%
(g) Combined Dollar Effect						
197 Combined Donar Endet						
(1) (d-1) plus (e-3)			\$27,832	Increase		\$5,087
(2) Average after Act 57 (a-2 p	olus or minus g-1	1)	\$506,061			\$68,321

	<u>s</u>	State O.D.			Federal Excess	
	<u>Base</u>	All PP	Weighted 100%-0%	<u>Base</u>	<u>All PP</u>	Weighted 100%-0%
(a) After AMA Guidelines				(a) After AMA	<u>Guidelines</u>	
<ul><li>(1) Number of Claims</li><li>(2) Average Amounts</li><li>(3) Index (Base)</li></ul>	# 21 \$411,918 100%	\$283,070	\$411,918 100.0000%	# 21 \$199,557 100%	\$250,438	\$199,557 100.0000%
(b) Social Security Offset				(b) Social Sec	urity Onset	
<ul><li>(1) Total (including above)</li><li>(2) Difference- Social Security</li><li>(Federal= b-1 minus a-2)</li></ul>	- \$32,234	- \$7,254	- \$32,234	\$206,776 7,219	\$253,572 3,134	\$206,776 7,219
(3) Index (to a(2))	7.8253%	2.5626%	7.8253%	3.6175%	1.2514%	3.6175%
(4) Complement	92.1747%	97.4374%	92.1747%	96.3825%	98.7486%	96.3825%
(c) Pension Offset (after Social Se	curity Offset)			(c) Pension O	<u>nset</u>	
(1) Total (including above)	-	-	-	\$241,373	\$275,426	\$241,373
(2) Difference	\$74,566	\$47,704	\$74,566	34,597	21,854	34,597
(Federal= c-1 minus b-1)	10 500/	40 500/	40.500/	10.500/	10.500/	10 500/
(3) % Pension (VII-G, P. 2)	12.50%	12.50%	12.50%	12.50%	12.50%	12.50%
<ul><li>(4) Net Pension</li><li>(5) Index (to a-2)</li></ul>	9,321 2.2628%	5,963 2.1065%	9,321 2.2628%	4,325 2.1671%	2,732 1.0908%	4,325 2.1671%
(6) Complement	97.7372%	97.8935%	97.7372%	2.107 170	1.090676	2.107 176
(d) Combined Social Security and				(d) Combined	Social Sec, Per	nsion Onsets
(1) Average Amounts (b-2 plus c-4)	\$41,555	\$13,217	\$41,555	\$11,544	\$5,866	\$11,544
(2) Index (to a-2)	10.0881%	4.6692%	10.0881%			5.7846%
(3) Complement	89.9119%	95.3308%	89.9119%	Factor		105.7846%
(4) Total Average	370,363	269,853	370,363			211,101
(e) Wage Level Decrease				(e) Wage Leve	el Increase	
(1) Percentage from Exhibit VII (2) Complement	-G, Page 1		0.0000% 100.0000%			
(3) Dollar Decrease			0	Dollar Increase	е	\$0
(4) Factor						100.0000%
(f) Combined Social Security, Pen	sion and Wage	Level		(f) Combined I	Percentage	
<ul><li>(1) Percentage level Excl. AMA</li><li>(2) AMA Guidelines (a-3)</li><li>(3) Full Effect of Act 57 (1 X 2)</li></ul>	Guidelines (d-	3 times e-2)	89.9119% 100.0000% 89.9119%			105.7846% 100.0000% 105.7846%
(4) Percentage Decrease			10.0881%	Increase		5.7846%
(g) Combined Dollar Effect						
(1) (d-1) plus (e-3)			\$41,555	Increase		\$11,544
(2) Average after Act 57 (a-2 pl	us or minus g-1	)	\$370,363			\$211,101

#### Coal Mine Compensation Rating Bureau Average Severity from Before Act 57 through Stages to After Act 57

Exhibit VII-A Page 5 Other Classes
For Information - NOT USED

	<u>s</u>	State O.D.		<u>!</u>	ederal Excess	
( ) A ( ) A ( ) ( ) ( ) ( )	<u>Base</u>	<u>All PP</u>	Weighted 100%-0%	Base	All PP	Weighted 100%-0%
(a) After AMA Guidelines				(a) After AMA (	<u>suidelines</u>	
<ul><li>(1) Number of Claims</li><li>(2) Average Amounts</li><li>(3) Index (Base)</li></ul>	# 14 \$306,563 100%	\$234,748	\$306,563 100.0000%	# 14 \$221,217 100%	\$241,832	\$221,217 100.0000%
(b) mack (base)	10070		100.000070	10070		100.000070
(b) Social Security Offset				(b) Social Secu	ırity Onset	
(1) Total (including above)	_	_	_	\$232,409	\$249,728	\$232,409
(2) Difference- Social Security (Federal= b-1 minus a-2)	\$21,848	\$10,790	\$21,848	11,192	7,896	11,192
(3) Index (to a(2))	7.1268%	4.5964%	7.1268%	5.0593%	3.2651%	5.0593%
(4) Complement	92.8732%	95.4036%	92.8732%	94.9407%	96.7349%	94.9407%
(c) Pension Offset (after Social Se	ecurity Offset)			(c) Pension On	<u>set</u>	
(1) Total (including above)	-	_	_	\$246,679	\$259,717	\$246,679
(2) Difference	\$78,640	\$54,803	\$78,640	14,270	9,989	14,270
(Federal= c-1 minus b-1)						
(3) % Pension (VII-G, P. 2)	12.50%	12.50%	12.50%	12.50%	12.50%	12.50%
<ul><li>(4) Net Pension</li><li>(5) Index (to a-2)</li></ul>	9,830 3.2065%	6,850 2.9182%	9,830 3.2065%	1,784 0.8063%	1,249 0.5163%	1,784 0.8063%
(6) Complement	96.7935%	97.0818%	96.7935%	0.800376	0.510576	0.000370
(d) Combined Social Security and	Pension Offsets	<u>s</u>		(d) Combined S	Social Sec, Per	nsion Onsets
	404.070	0.17.010	404.070	440.070	***	440.070
(1) Average Amounts (b-2 plus c-4)	\$31,678	\$17,640	\$31,678	\$12,976	\$9,145	\$12,976
(2) Index (to a-2)	10.3333%	7.5146%	10.3333%			5.8656%
(3) Complement	89.6667%	92.4854%	89.6667%	Factor		105.8656%
(4) Total Average	274,885	217,108	274,885			234,193
(e) Wage Level Decrease				(e) Wage Leve	I Increase	
(1) Percentage from Exhibit VII (2) Complement	l-G, Page 1		0.0000% 100.0000%			
(3) Dollar Decrease			0	Dollar Increase	:	\$0
(4) Factor						100.0000%
(f) Combined Social Security, Pen	sion and Wage	Level		(f) Combined F	ercentage	
<ul><li>(1) Percentage level Excl. AMA</li><li>(2) AMA Guidelines (a-3)</li></ul>	A Guidelines (d-	3 times e-2)	89.6667% 100.0000%			105.8656%
(3) Full Effect of Act 57 (1 X 2)			89.6667%			100.0000% 105.8656%
(4) Percentage Decrease			10.3333%	Increase		5.8656%
(g) Combined Dollar Effect						
(1) (1, 1) (1, 2)			40.4.0==			440.0==
(1) (d-1) plus (e-3)	luo or minus = 4	1)	\$31,678	Increase		\$12,976
(2) Average after Act 57 (a-2 pl	ius or minus g-1	1)	\$274,885			\$234,193

Weighted Level = 100% Base Scenario plus 0% 'All Permanent Partial' Scenario.

## COAL MINE COMPENSATION RATING BUREAU State Occupational Disease Classification Credibility

			(1)	(2)	(3)	(4)	(5) Credik	(6) Dility	(7) Claim	(8)	(9)	(10) Claim
			Estimated Miner Years	Claim Freq Indicated	uency per 100 N Trended to	Miner Years Indicated	Expected Awarded		Frequency Indicated w/	Change in Indication	10 Year 2009-2018	Frequency Per \$100 of
Classification	<u>!</u>	<u>Code</u>	2009-2018	(Eff 4/1/2019)	4/1/2020	(Eff 4/1/2020)	<u>Claims</u>	<u>Factor</u>	<u>Credibility</u>	After Cred.	<u>Payroll</u>	<u>Payroll</u>
Underground	: Anthracite Bituminous	1011 1002	131.5 22,328.2	0.929777 0.126368	0.929777 0.126368	1.825621 0.165708	1.223 28.216	0.166 0.797	1.078487 0.157722	16.0% 24.8%	6,417,168 1,667,335,520	0.221003 0.021121
Surface:	Anthracite Bituminous	1016 1013	4,026.2 10,975.3	0.131369 <u>0.031664</u>	0.131369 0.031664	0.063123 <u>0.063421</u>	5.289 <u>3.475</u>	0.345 0.280	0.107824 <u>0.040556</u>	-17.9% <u>28.1%</u>	206,924,146 550,891,651	0.020980 0.008080
Four Standard	d Classificatio	ns	37,461.2	0.101980	0.101980	0.130541	38.203		0.121264	21.1%	2,431,568,485	0.018682
	Coke Auger	1017 1019	920.8 149.2	0.012329 0.025262	0.012329 0.025262	0.010143 0.010223	0.114 0.038	0.051 0.029	0.012218 0.024826	-0.9% -1.7%	47,001,059 7,513,947	0.002394 0.004930
Co-Gen:	Anthracite Bituminous	1022 1024	1,866.4 2,001.1	0.026430 0.037065	0.026430 0.037065	0.010147 0.010139	0.493 0.742	0.105 0.129	0.024720 0.033592	-6.5% -9.4%	95,757,324 103,333,762	0.004818 0.006505
Prep Plants:	Anthracite Bituminous	1026 1028	1,494.5 <u>4,198.2</u>	0.241999 0.028259	0.241999 0.028259	0.311481 <u>0.046949</u>	3.617 1.186	0.285 0.163	0.261801 <u>0.031305</u>	8.2% 10.8%	76,934,433 311,405,965	0.050856 0.004220
Other Classes	S		10,630.2	0.058223		0.067045	6.189		0.061241	2.4%	641,946,490	0.010141
Total			48,091.4	0.092308		0.116506	44.392		0.107996	17.0%	3,073,514,975	0.016898

Source: (1) Estimated Miner Years from Exhibit VII-B-2

<sup>(2)</sup> Exhibit VII-B-1-B Col. 10

<sup>(3)</sup> Approved claim frequency trended to 4/1/2020 @ 0.0%

<sup>(4)</sup> Indicated Frequency - Exhibit VII-B-2; totals and subtotals are based on class frequencies weighted with 10 year estimated miner years.

<sup>(5)</sup> Expected Awarded Claims = (1)  $\times$  (2) / 100

<sup>(6)</sup> Factor  $Z = ((5) / 44.392) \land 0.5$ 

<sup>(7)=(4)\*(6)+((3)\*(1-(6))</sup> 

<sup>(8)=(7)/(2)-1</sup> Totals and subtotals are weighted with 10 year estimated miner years.

<sup>(9)</sup> From Exhibit X-A

 $<sup>(10)=(7) \</sup>times (1) / ((9) \times 100) / 1,000,000$ 

## COAL MINE COMPENSATION RATING BUREAU State Occupational Disease Classification Credibility

			(1)	(2)	(3) Expected	(4)	(5)	(6)	(7) Average	(8)	(9)	(10)
			Approved		Awarded Claims	Estimated	Estimated		Weekly		Estimated	Frequency
			Claim Freq.	Payroll	2008-2017	Miner Years	Miner Years	Adjustment	Wage	Payroll	Miner Years	Per 100
<u>Classificatio</u>	<u>n</u>	<u>Code</u>	4/1/2019	2008-2017	(1) x (2)	<u>2009-2018</u>	<u>2018</u>	<u>Factor</u>	<u>2008</u>	<u>2008</u>	2008-2017	Miner Years
Undergroun	d: Anthracite	1011	0.195274	8,370,535		131.5	3.2	1.072	807	2,136,713	175.8	0.929777
	Bituminous	1002	0.017266	1,588,989,812	27.435498	22,328.2	2,176.6	1.549	807	101,353,977	21,710.8	0.126368
Surface:	Anthracite	1016	0.026111	204,200,933	5.331891	4,026.2	344.4	1.072	807	16,954,313	4,058.7	0.131369
	Bituminous	1013	0.006445	588,679,702	3.794041	10,975.3	617.2	1.072	807	73,054,482	11,982.1	0.031664
Four Standa	rd Classificatio	ns		2,390,240,982	38.195978	37,461.2	3,141.4			193,499,485	37,927.4	
	Coke	1017	0.002498	52,305,410	0.130659	920.8	78.0	1.072	807	9,761,146	1,059.8	0.012329
	Auger	1019	0.005209	9,442,379	0.049185	149.2	9.8	1.072	807	2,488,558	194.7	0.025262
Co-Gen:	Anthracite	1022	0.005280	92,124,171	0.486416	1,866.4	202.9	1.072	807	7,958,335	1,840.4	0.026430
	Bituminous	1024	0.007351	99,805,713	0.733672	2,001.1	210.0	1.072	807	8,468,561	1,979.4	0.037065
Prep Plants:	Anthracite	1026	0.048208	73,682,115		1,494.5	168.8	1.072	807	6,390,767	1,467.8	0.241999
	Bituminous	1028	0.003889	300,602,668	<u>1.169044</u>	4,198.2	388.2	1.549	807	<u>21,250,256</u>	4,136.9	0.028259
Other Classe	es			627,962,456		10,630.2	1,057.7			56,317,623	10,679.0	
Total				3,018,203,438		48,091.4	4,199.1			249,817,108	48,606.4	

Source: (1) Approved Claim Frequency (4/1/19): See Exhibit III from filing effective 4/1/2019 (See Exhibit X-F)

- (2) 10 years Payroll(2008-2017): See Exhibit X-A-1
- (3) Expected Awarded Claims = (1)x(2) / 1,000,000
- (4) Estimated Miner Years 2009-2018: See Exhibit VII-B-2
- (5) Estimated Miner Years 2018: See Exhibit VII-B-2
- (6) Wage Adjustment Factor was derived from CMCRB data. See Exhibit X-G
- (7) Average Weekly Wage 2008: See Exhibit XII-D
- (8) Payroll 2008: See Exhibit X-A-1
- (9) Estimated Miner Years 2008-2017 = (4)-(5)+(8)/((6)x(7)x52)
- (10) Frequency Per 100 Miner Years = (3)/((9)/100))

## STATE OCCUPATIONAL DISEASE FREQUENCY WITH FEDERAL EXCESS FREQUENCY

ANTHRACITE	ANTHRACITE UNDERGROUND (1011)													
AMIIIKACIIL	UNDERGROO	MD (1011)					0.971		EXPECTED	Statewide		Estimated	Frequency	
V5.15	25002550		2515110	0.51.1150	10.10	IBNR +	AWARD		ULTIMATE	Average	Adjustment	Miner	Claims per 100	Weighted
<u>YEAR</u> 2009	REPORTED 0	AWARDED 0	PENDING 0	DENIED 0	<u>IBNR</u> 0.0000	0.0000	RATIO 0.000000	Payroll 1,335,866	0.000000	Weekly Wage 836	Factor 1.072	<u>Years</u> 28.7	Miner Years 0.000000	Frequency
2010	0	0	0	0	0.0000	0.0000	0.000000	1,299,588	0.000000	845	1.072	27.6	0.000000	
2011	1	1	0	0	0.0000	0.0000	0.000000	1,257,944	1.000000	858	1.072	26.3	3.802281	
2012	0	0	0	0	0.0000	0.0000	0.000000	1,029,260	0.000000	888	1.072	20.8	0.000000	
2013	1	1	0	0	0.0000	0.0000	0.000000	381,876	1.000000	917	1.072	7.5	13.333333	
2014 2015	0	0	0	0	0.0000	0.0000	0.000000	258,809 254,336	0.000000	932 951	1.072 1.072	5.0 4.8	0.000000	
2016	0	0	0	0	0.0000	0.0000	0.000000	163,760	0.000000	978	1.072	3.0	0.000000	
2017	0	0	0	0	0.0000	0.0000	0.000000	252,383	0.000000	995	1.072	4.6	0.000000	
<u>2018</u>	0	0	0	0	0.0369	0.0369	0.035859	183,346	0.035859	1,025	1.072	3.2	1.120595	
TOTAL	2	2	0	0	0.0369	0.0369	0.035859	6,417,168	2.035859			131.5	18.256209	
-	: State Frequ		40.0071										1.825621	
reaerai i	Excess Frequ	ency (times	40.0%)										0.730248	
BITUMINOUS (	UNDERGROU	ND (1002)												
						IBNR +	0.971 AWARD		EXPECTED ULTIMATE	Statewide Average	Adjustment	Estimated Miner	Frequency Claims per 100	
YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	PENDING	RATIO	Payroll	AWARDED	Weekly Wage	Factor	Years	Miner Years	
2009	0	0	0	0	0.0000	0.0000	0.000000	101,348,140	0.000000	836	1.549	1,505.1	0.000000	
2010	0	0	0	0	0.0000	0.0000	0.000000	125,393,576	0.000000	845	1.549	1,842.3	0.000000	
2011	2	2	0	0	0.0000	0.0000	0.000000	148,485,709	2.000000	858	1.549	2,148.5	0.093088	
2012	4	3	1	0	0.1229	1.1229	1.090336	153,618,908	4.090336	888	1.549	2,147.7	0.190452	
2013 2014	6	4	2	0	0.3579 1.3616	2.3579 1.3616	2.289521 1.322094	149,747,092 271,230,707	6.289521 7.322094	917 932	1.549 1.549	2,027.4 3,613.0	0.310226 0.202660	
2015	3	2	1	0	1.8204	2.8204	2.738589	216,454,460	4.738589	951	1.549	2,825.7	0.167696	
2016	3	3	0	0	1.8035	1.8035	1.751169	148,556,407	4.751169	978	1.549	1,885.8	0.251944	
2017	0	0	0	0	3.2003	3.2003	3.107462	172,800,836	3.107462	995	1.549	2,156.1	0.144124	
2018	1	0	1	0	5.6552	6.6552	6.462151	179,699,685	6.462151	1,025	1.549	2,176.6	0.296892	
TOTAL	25	20	5	0	14.3217	19.3217	18.761322	1,667,335,520	38.761322			22,328.2	1.657082	
	e: State Frequ Excess Frequ	,	40.0%)										0.165708 0.066283	
rederdire	LACESS FIEQU	ericy (iliries	40.076)										0.000203	
ANTHRACITES	SURFACE (10	016)												
						IBLID :	0.971		EXPECTED	Statewide		Estimated	Frequency	
YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	AWARD RATIO	Payroll	ULTIMATE AWARDED	Average Weekly Wage	Adjustment <u>Factor</u>	Miner Years	Claims per 100 Miner Years	
2009	0	0	0	0	0.0000	0.0000	0.000000	16,445,462	0.000000	836	1.072	352.9	0.000000	
2010	0	0	Ö	0	0.0000	0.0000	0.000000	14,295,288	0.000000	845	1.072	303.5	0.000000	
2011	1	1	0	0	0.0000	0.0000	0.000000	21,034,600	1.000000	858	1.072	439.8	0.227376	
2012	0	0	0	0	0.0000	0.0000	0.000000	26,295,907	0.000000	888	1.072	531.2	0.000000	
2013	1	0	0	1 0	0.0000	0.0000	0.000000	22,449,824	0.000000	917	1.072	439.2	0.000000	
2014 2015	0	0	0	0	0.0000	0.0000	0.000000	20,466,075 24,218,779	0.000000	932 951	1.072 1.072	393.9 456.8	0.000000	
2016	1	1	0	0	0.0716	0.0716	0.069524	20,873,611	1.069524	978	1.072	382.9	0.279322	
2017	0	0	0	0	0.1844	0.1844	0.179023	21,167,074	0.179023	995	1.072	381.6	0.046914	
2018	0	0	0	0	0.2753	0.2753	0.267307	19,677,526	0.267307	1,025	1.072	344.4	0.077615	
TOTAL	3	2	0	1	0.5313	0.5313	0.515853	206,924,146	2.515853			4,026.2	0.631227	
	e: State Frequ Excess Frequ		40.0%)										0.063123 0.025249	
reaciant	LXCC33 11CQC	oricy (iiirios	40.070										0.020247	
BITUMINOUS	SURFACE (10	)13)											_	
						IBNR +	0.971 AWARD		EXPECTED ULTIMATE	Statewide Average	Adjustment	Estimated Miner	Frequency Claims per 100	
YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	PENDING	RATIO	Payroll	AWARDED	Weekly Wage	Factor	Years	Miner Years	
2009	0	0	0	0	0.0000	0.0000	0.000000	61,784,394	0.000000	836	1.072	1,325.8	0.000000	
2010	0	0	0	0	0.0000	0.0000	0.000000	72,711,558	0.000000	845	1.072	1,543.6	0.000000	
2011	1	1	0	0	0.0000	0.0000	0.000000	86,074,064	1.000000	858	1.072	1,799.6	0.055568	
2012 2013	2	2	0	0	0.0000	0.0000	0.000000	76,452,811 61,349,745	2.000000 0.000000	888 917	1.072 1.072	1,544.5 1,200.2	0.129492 0.000000	
2013	1	1	0	0	0.0000	0.0000	0.000000	54,050,731	1.000000	932	1.072	1,040.4	0.000000	
2015	2	2	0	0	0.0413	0.0413	0.040141	40,934,048	2.040141	951	1.072	772.2	0.264199	
2016	0	0	0	0	0.0842	0.0842	0.081739	29,127,089	0.081739	978	1.072	534.3	0.015298	
2017	0	0	0	0	0.1763	0.1763	0.171197	33,140,780	0.171197	995	1.072	597.5	0.028652	
2018	0	0	0	0	0.2853	0.2853	0.277036	35,266,431	0.277036	1,025	1.072	617.2	0.044886	
TOTAL	6	6	0	0	0.5871	0.5871	0.570113	550,891,651	6.570113			10,975.3	0.634212	
	e: State Frequ Excess Frequ		40.0%)										0.063421 0.025368	
			•											
FOUR STAND	ARD CLASSES	S				IBNR +	0.971		EXPECTED	Statewide	Adii sataa t	Estimated	Frequency	
YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	PENDING	AWARD RATIO	Payroll	ULTIMATE AWARDED	Average Weekly Wage	Adjustment <u>Factor</u>	Miner <u>Years</u>	Claims per 100 Miner Years	
2009	0	0	0	0	0.0000	0.0000	0.000000	180,913,862	0.000000	836	1 40101	3,212.5	0.000000	
2010	0	0	0	0	0.0000	0.0000	0.000000	213,700,010	0.000000	845		3,717.0	0.000000	
2011	5	5	0	0	0.0000	0.0000	0.000000	256,852,317	5.000000	858		4,414.2	0.113271	
2012	6	5	1	0	0.1229	1.1229	1.090336	257,396,886	6.090336	888		4,244.2	0.143498	
2013 2014	8 7	5 7	2	1	0.3579	2.3579 1.3616	2.289521 1.322094	233,928,537 346,006,322	7.289521 8.322094	917 932		3,674.3 5,052.3	0.198392 0.164719	
2014	5	4	1	0	1.3616 1.8617	2.8617	2.778730	281,861,623	6.778730	932 951		4,059.5	0.166984	
2016	4	4	0	0	1.9593	1.9593	1.902432	198,720,867	5.902432	978		2,806.0	0.210350	
2017	0	0	0	0	3.5610	3.5610	3.457682	227,361,073	3.457682	995		3,139.8	0.110124	
2018	1	0	1	0	6.2527	7.2527	7.042352	234,826,988	7.042352	1,025		3,141.4	0.224179	
TOTAL	36	30	5	1	15.4770	20.4770	19.883148	2,431,568,485	49.883148			37,461.2	1.331517	0.120541
	e: State Frequ Excess Frequ		40.0%1										0.133152 0.053261	0.130541 0.052217
i edeldi i	rvcess LIEdn	CITCY (IIIIIES	-0.0/0]										0.033261	0.032217

Source: Claim counts - CMCRB OD Database as of 08/06/2019 IBNR: Exhibit VII-C

Payroll- Exhibit X.A

The Award Ratios for all classes were set equal to the Grand Total Award Ratio calculated on Exhibit VII-B-2 Page 3.

The Grand Total Award Ratio is equal to Awarded ÷ (Awarded plus Denied) = 34 / [34 + 01] = 0.971

The Wage Adjustment Factor was derived from CMCRB data. See Exhibit X.G

Estimated Miner Years = Payroll / (SAWW x Adj. Factor x 52)

Frequency per 100 Miner Years = (Expected Ult. Awarded / Est. Miner Years) x 100

File: k:\OneDrive\Clients\Coal Mine\2019 Rate Filing\XL\[2019-07-B-2.xlsm]VII-B-1

Run Date: September 18, 2019 - 09:15:49 AM

## STATE OCCUPATIONAL DISEASE FREQUENCY WITH FEDERAL EXCESS FREQUENCY

COKE (1017)	)													
		IBNR F	actor adjust	ted by 0.40	00	IDNID :	0.971		EXPECTED	Statewide	A althoughous a said	Estimated	Frequency	NAT - Code A I
YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	AWARD RATIO	Payroll	ULTIMATE AWARDED	Average Weekly Wage	Adjustment Factor	Miner Years	Claims per 100 Miner Years	Weighted Frequency
2009	0	0	0	0	0.0000	0.0000	0.000000	5,173,552	0.000000	836	1.072	111.0	0.000000	
2010	0	0	0	0	0.0000	0.0000	0.000000	5,435,658	0.000000	845	1.072	115.4	0.000000	
2011 2012	0	0	0	0	0.0000	0.0000	0.000000 0.001068	3,599,086 5,738,105	0.000000	858 888	1.072 1.072	75.3 115.9	0.000000 0.000922	
2013	0	0	0	0	0.0032	0.0032	0.003107	4,791,910	0.001000	917	1.072	93.7	0.003316	
2014	0	0	0	0	0.0059	0.0059	0.005729	4,464,398	0.005729	932	1.072	85.9	0.006669	
2015	0	0	0	0	0.0091	0.0091	0.008836	4,340,376	0.008836	951	1.072	81.9	0.010789	
2016 2017	0	0	0	0	0.0141	0.0141 0.0223	0.013691	4,435,066	0.013691	978 995	1.072 1.072	81.4 82.3	0.016820 0.026310	
2017	0	0	0	0	0.0223	0.0223	0.021653 0.028547	4,566,113 4,456,795	0.021653 0.028547	1,025	1.072	78.0	0.036599	
TOTAL					0.0851	0.0851	0.082632	47,001,059	0.082632	1,020		920.8	0.101425	
Average	e: State Frequ	ency											0.010143	
Federal	Excess Frequ	ency (times	40.0%)										0.004057	
AUGER (1019	<b>'</b> )													
		IBNR F	actor adjust	ted by 0.40	00	10110	0.971		EXPECTED	Statewide		Estimated	Frequency	
YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	AWARD RATIO	Payroll	ULTIMATE AWARDED	Average Weekly Wage	Adjustment Factor	Miner Years	Claims per 100 Miner Years	
2009	0	0	0	0	0.0000	0.0000	0.000000	926,163	0.000000	836	1.072	19.9	0.000000	
2010	0	0	0	0	0.0000	0.0000	0.000000	806,696	0.000000	845	1.072	17.1	0.000000	
2011	0	0	0	0	0.0000	0.0000	0.000000	1,176,255	0.000000	858	1.072	24.6	0.000000	
2012	0	0	0	0	0.0002	0.0002	0.000194 0.000680	808,208 1,025,399	0.000194	888 917	1.072 1.072	16.3 20.1	0.001191 0.003382	
2013	0	0	0	0	0.0007	0.0007	0.000660	806,976	0.001068	932	1.072	15.5	0.003382	
2015	0	0	Ő	0	0.0012	0.0012	0.001165	582,619	0.001165	951	1.072	11.0	0.010593	
2016	0	0	0	0	0.0012	0.0012	0.001165	372,496	0.001165	978	1.072	6.8	0.017135	
2017	0	0	0	0	0.0022	0.0022	0.002136	449,009	0.002136	995	1.072	8.1	0.026373	
2018 TOTAL	0	0	0	0	0.0037	0.0037	0.003593	7,513,947	0.003593	1,025	1.072	9.8	0.036660	
	e: State Frequ	-	U	U	0.0103	0.0103	0.010001	7,513,747	0.010001			147.2	0.0102223	
	Excess Frequ		40.0%)										0.004089	
ANTHRACITE	CO-GEN (10	)22)												
ANTHRACITE	CO-GEN (10		actor adjust	ted by 0.40	00		0.971		EXPECTED	Statewide		Estimated	Frequency	
		IBNR F	-			IBNR +	AWARD	Payroll	ULTIMATE	Average	Adjustment	Miner	Claims per 100	
ANTHRACITE  YEAR 2009	CO-GEN (10  REPORTED 0		-	ted by 0.40	00 <u>IBNR</u> 0.0000	IBNR + <u>PENDING</u> 0.0000		<u>Payroll</u> 8,004,644			Adjustment Factor 1.072			
<u>YEAR</u>	REPORTED 0 0	AWARDED 0 0	PENDING 0 0	DENIED 0 0	IBNR	PENDING	AWARD RATIO		ULTIMATE AWARDED	Average <u>Weekly Wage</u> 836 845	Factor 1.072 1.072	Miner Years	Claims per 100 Miner Years	
<u>YEAR</u> 2009 2010 2011	REPORTED 0 0 0	AWARDED 0 0 0	PENDING 0 0 0	DENIED 0 0 0	IBNR 0.0000 0.0000 0.0000	PENDING 0.0000 0.0000 0.0000	AWARD <u>RATIO</u> 0.000000 0.000000 0.000000	8,004,644 8,481,228 11,720,035	ULTIMATE <u>AWARDED</u> 0.000000 0.000000 0.000000	Average Weekly Wage 836 845 858	Factor 1.072 1.072 1.072	Miner <u>Years</u> 171.8 180.1 245.0	Claims per 100 <u>Miner Years</u> 0.000000 0.000000 0.000000	
YEAR 2009 2010 2011 2012	REPORTED 0 0 0 0 0 0	AWARDED 0 0 0 0	PENDING 0 0 0 0 0	DENIED 0 0 0 0 0	IBNR 0.0000 0.0000 0.0000 0.0021	PENDING 0.0000 0.0000 0.0000 0.0021	AWARD <u>RATIO</u> 0.000000 0.000000 0.000000 0.002039	8,004,644 8,481,228 11,720,035 10,273,004	ULTIMATE <u>AWARDED</u> 0.000000 0.000000 0.000000 0.002039	Average <u>Weekly Wage</u> 836 845 858 888	1.072 1.072 1.072 1.072 1.072	Miner <u>Years</u> 171.8 180.1 245.0 207.5	Claims per 100 <u>Miner Years</u> 0.000000 0.000000 0.000000 0.000983	
YEAR 2009 2010 2011 2012 2013	REPORTED 0 0 0 0 0 0 0 0 0	AWARDED  0 0 0 0 0	PENDING  0  0  0  0  0  0	DENIED 0 0 0 0 0 0 0 0	IBNR 0.0000 0.0000 0.0000 0.0021 0.0055	PENDING 0.0000 0.0000 0.0000 0.0021 0.0055	AWARD <u>RATIO</u> 0.000000 0.000000 0.000000 0.002039 0.005341	8,004,644 8,481,228 11,720,035 10,273,004 8,342,651	ULTIMATE <u>AWARDED</u> 0.000000 0.000000 0.000000 0.002039 0.005341	Average <u>Weekly Wage</u> 836 845 858 888 917	1.072 1.072 1.072 1.072 1.072 1.072	Miner <u>Years</u> 171.8 180.1 245.0 207.5 163.2	Claims per 100 <u>Miner Years</u> 0.000000 0.000000 0.000000 0.000983 0.003272	
YEAR 2009 2010 2011 2012	REPORTED 0 0 0 0 0 0	AWARDED 0 0 0 0	PENDING 0 0 0 0 0	DENIED 0 0 0 0 0	IBNR 0.0000 0.0000 0.0000 0.0021	PENDING 0.0000 0.0000 0.0000 0.0021	AWARD <u>RATIO</u> 0.000000 0.000000 0.000000 0.002039	8,004,644 8,481,228 11,720,035 10,273,004	ULTIMATE <u>AWARDED</u> 0.000000 0.000000 0.000000 0.002039	Average <u>Weekly Wage</u> 836 845 858 888	1.072 1.072 1.072 1.072 1.072	Miner <u>Years</u> 171.8 180.1 245.0 207.5	Claims per 100 <u>Miner Years</u> 0.000000 0.000000 0.000000 0.000983	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016	REPORTED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	AWARDED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	PENDING 0 0 0 0 0 0 0 0 0 0 0 0	DENIED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	IBNR 0.0000 0.0000 0.0000 0.0021 0.0055 0.0119 0.0220 0.0287	PENDING 0.0000 0.0000 0.0000 0.0021 0.0055 0.0119 0.0220 0.0287	AWARD RATIO 0.000000 0.000000 0.000000 0.002039 0.005341 0.011555 0.021362 0.027868	8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602	ULTIMATE <u>AWARDED</u> 0.000000 0.000000 0.000000 0.002039 0.005341 0.011555 0.021362 0.027868	Average <u>Weekly Wage</u> 836 845 858 888 917 932 951 978	Factor 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Miner <u>Years</u> 171.8 180.1 245.0 207.5 163.2 174.4 197.5 165.0	Claims per 100  Miner Years 0.000000 0.000000 0.000000 0.000983 0.003272 0.006626 0.010816 0.016890	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017	REPORTED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	BNR F  AWARDED  0  0  0  0  0  0  0  0  0  0  0  0  0	PENDING 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	DENIED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	IBNR 0.0000 0.0000 0.0000 0.0021 0.0055 0.0119 0.0220 0.0287 0.0431	PENDING 0.0000 0.0000 0.0000 0.0021 0.0055 0.0119 0.0220 0.0287 0.0431	AWARD RATIO 0.000000 0.000000 0.000000 0.002039 0.005341 0.011555 0.021362 0.027868 0.041850	8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 8,819,700	ULTIMATE <u>AWARDED</u> 0.000000 0.000000 0.002039 0.005341 0.011555 0.021362 0.027868 0.041850	Average <u>Weekly Wage</u> 836 845 858 888 917 932 951 978 995	Factor 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Miner <u>Years</u> 171.8 180.1 245.0 207.5 163.2 174.4 197.5 165.0 159.0	Claims per 100  Miner Years 0.000000 0.000000 0.000000 0.000983 0.003272 0.006626 0.010816 0.016890 0.026321	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018	REPORTED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	AWARDED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	PENDING 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	DENIED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	IBNR 0.0000 0.0000 0.0000 0.0021 0.0055 0.0119 0.0220 0.0287 0.0431 0.0764	PENDING 0.0000 0.0000 0.0000 0.0001 0.0055 0.0119 0.0220 0.0287 0.0431 0.0764	AWARD RATIO 0.000000 0.000000 0.000000 0.0002039 0.005341 0.011555 0.021362 0.027868 0.041850 0.074184	8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 8,819,700 11,591,488	ULTIMATE <u>AWARDED</u> 0.000000 0.000000 0.000000 0.002039 0.005341 0.011555 0.021362 0.027868 0.041850 0.074184	Average <u>Weekly Wage</u> 836 845 858 888 917 932 951 978	Factor 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Miner <u>Years</u> 171.8 180.1 245.0 207.5 163.2 174.4 197.5 165.0 159.0 202.9	Claims per 100  Miner Years 0.000000 0.000000 0.000000 0.000983 0.003272 0.006626 0.010816 0.016890 0.026321 0.036562	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL	REPORTED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	BNR F  AWARDED  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	PENDING 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	DENIED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	IBNR 0.0000 0.0000 0.0000 0.0021 0.0055 0.0119 0.0220 0.0287 0.0431	PENDING 0.0000 0.0000 0.0000 0.0021 0.0055 0.0119 0.0220 0.0287 0.0431	AWARD RATIO 0.000000 0.000000 0.000000 0.002039 0.005341 0.011555 0.021362 0.027868 0.041850	8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 8,819,700	ULTIMATE <u>AWARDED</u> 0.000000 0.000000 0.002039 0.005341 0.011555 0.021362 0.027868 0.041850	Average <u>Weekly Wage</u> 836 845 858 888 917 932 951 978 995	Factor 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Miner <u>Years</u> 171.8 180.1 245.0 207.5 163.2 174.4 197.5 165.0 159.0	Claims per 100  Miner Years 0.000000 0.000000 0.000000 0.000983 0.003272 0.006626 0.010816 0.016890 0.026321	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL	REPORTED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	BNR F	PENDING 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	DENIED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	IBNR 0.0000 0.0000 0.0000 0.0021 0.0055 0.0119 0.0220 0.0287 0.0431 0.0764	PENDING 0.0000 0.0000 0.0000 0.0001 0.0055 0.0119 0.0220 0.0287 0.0431 0.0764	AWARD RATIO 0.000000 0.000000 0.000000 0.0002039 0.005341 0.011555 0.021362 0.027868 0.041850 0.074184	8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 8,819,700 11,591,488	ULTIMATE <u>AWARDED</u> 0.000000 0.000000 0.000000 0.002039 0.005341 0.011555 0.021362 0.027868 0.041850 0.074184	Average <u>Weekly Wage</u> 836 845 858 888 917 932 951 978 995	Factor 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Miner <u>Years</u> 171.8 180.1 245.0 207.5 163.2 174.4 197.5 165.0 159.0 202.9	Claims per 100 Miner Years 0.000000 0.000000 0.000000 0.000083 0.003272 0.006626 0.010816 0.016890 0.016892 0.0036562 0.0036562 0.101470	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average Federal	REPORTED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 Excess Frequences	AWARDED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	PENDING 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	DENIED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	IBNR 0.0000 0.0000 0.0000 0.0021 0.0055 0.0119 0.0220 0.0287 0.0431 0.0764	PENDING 0.0000 0.0000 0.0000 0.0001 0.0055 0.0119 0.0220 0.0287 0.0431 0.0764	AWARD RATIO 0.000000 0.000000 0.000000 0.0002039 0.005341 0.011555 0.021362 0.027868 0.041850 0.074184	8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 8,819,700 11,591,488	ULTIMATE <u>AWARDED</u> 0.000000 0.000000 0.000000 0.002039 0.005341 0.011555 0.021362 0.027868 0.041850 0.074184	Average <u>Weekly Wage</u> 836 845 858 888 917 932 951 978 995	Factor 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Miner <u>Years</u> 171.8 180.1 245.0 207.5 163.2 174.4 197.5 165.0 159.0 202.9	Claims per 100 Miner Years	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average Federal	REPORTED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	BNR F  AWARDED  0  0  0  0  0  0  0  0  0  0  0  0  0	PENDING 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	DENIED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	IBNR 0.0000 0.0000 0.0001 0.0055 0.0119 0.0220 0.0287 0.0431 0.0764 0.1897	PENDING 0.0000 0.0000 0.0000 0.0001 0.0055 0.0119 0.0220 0.0287 0.0431 0.0764 0.1897	AWARD RAIIO 0.000000 0.000000 0.000000 0.002039 0.005341 0.011555 0.021362 0.027868 0.041850 0.074184 0.184199	8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 8,819,700 11,591,488	ULTIMATE <u>AWARDED</u> 0.000000 0.000000 0.000030 0.000334 0.011555 0.021342 0.027848 0.041850 0.074184 0.184199	Average <u>Weekly Wage</u> 836 845 858 888 917 932 951 978 995 1,025	Factor 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Miner Years 171.8 180.1 245.0 207.5 163.2 174.4 197.5 165.0 159.0 202.9 1,866.4	Claims per 100 Miner Years	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average Federal	REPORTED  0 0 0 0 0 0 0 0 0 0 0 0 0 state frequences Frequence CO-GEN (10)	BNR F   AWARDED   0	PENDING 0 0 0 0 0 0 0 0 0 0 0 0 0 0 40.0%)	DENIED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	IBNR 0.0000 0.0000 0.0000 0.0021 0.0055 0.0119 0.0220 0.0287 0.0431 0.0764 0.1897	PENDING 0.0000 0.0000 0.0000 0.0021 0.0055 0.0119 0.0220 0.0287 0.0431 0.0764 0.1897	AWARD RATIO 0.000000 0.000000 0.000000 0.002039 0.005341 0.011555 0.021362 0.027868 0.041850 0.074184 0.184199	8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 8,197,000 11,591,488 95,757,324	ULTIMATE AWARDED (0.000000) (0.000000) (0.000000) (0.000039) (0.002039) (0.002341) (0.011555) (0.021342) (0.027848) (0.041850) (0.074184) (0.184199) (0.184199)	Average  Weekly Wage  836  845  858  888  917  932  951  978  995  1,025	Factor 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Miner Years 171.8 180.1 245.0 207.5 163.2 174.4 197.5 165.0 159.0 202.9 1,866.4  Estimated Miner	Claims per 100 Miner Years	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average Federal	REPORTED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 Excess Frequences	BNR F  AWARDED  0  0  0  0  0  0  0  0  0  0  0  0  0	PENDING 0 0 0 0 0 0 0 0 0 0 0 0 0 0 40.0%)	DENIED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	IBNR 0.0000 0.0000 0.0001 0.0055 0.0119 0.0220 0.0287 0.0431 0.0764 0.1897	PENDING 0.0000 0.0000 0.0000 0.0001 0.0055 0.0119 0.0220 0.0287 0.0431 0.0764 0.1897	AWARD RATIO 0.000000 0.000000 0.000000 0.0002039 0.005341 0.011555 0.021362 0.027868 0.041850 0.074184 0.184199	8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 11,591,488 95,757,324	ULTIMATE AWARDED 0.000000 0.000000 0.000000 0.000341 0.011555 0.021362 0.027868 0.041850 0.074184 0.1184199	Average <u>Weekly Wage</u> 836 845 858 888 917 932 951 978 995 1,025	Factor 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Miner Years 171.8 180.1 245.0 207.5 163.2 174.4 197.5 165.0 159.0 202.9 1,866.4  Estimated Miner Years	Claims per 100 Miner Years	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average Federal	REPORTED  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	BNR F	PENDING 0 0 0 0 0 0 0 0 0 0 0 0 0 0 40.0%)	DENIED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	IBNR 0.0000 0.0000 0.0000 0.00021 0.0055 0.0119 0.0220 0.0287 0.0431 0.0764 0.1897	PENDING 0.0000 0.0000 0.0000 0.0002 0.0021 0.0025 0.0119 0.0220 0.0287 0.0431 0.0764 0.1897	AWARD RATIO 0.000000 0.000000 0.000000 0.002039 0.005341 0.011555 0.021362 0.027868 0.041850 0.074184 0.184199	8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 8,197,000 11,591,488 95,757,324	ULTIMATE AWARDED (0.000000) (0.000000) (0.000000) (0.000039) (0.002039) (0.002341) (0.011555) (0.021342) (0.027848) (0.041850) (0.074184) (0.184199) (0.184199)	Average <u>Weekly Wage</u> 836 838 845 858 888 917 932 951 978 995 1,025	Factor 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Miner Years 171.8 180.1 245.0 207.5 163.2 174.4 197.5 165.0 159.0 202.9 1,866.4  Estimated Miner	Claims per 100 Miner Years	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average Federal BITUMINOUS  YEAR 2009 2010 2011	REPORTED  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 EXAMPLE A COMPANIED  CO-GEN (10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	BNR F	PENDING 0 0 0 0 0 0 0 0 0 0 0 0 0 0 40.0%)	DENIED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	BNR   0.0000   0.0001   0.0021   0.0764   0.1897   0.0000   0.0001   0.0001   0.00000   0.00000   0.00000   0.00000   0.00000   0.00000   0.00000	PENDING 0.0000 0.0000 0.0000 0.0001 0.0019 0.0028 0.0119 0.0220 0.0287 0.0431 0.0764 0.1897  IBNR + PENDING 0.0000 0.0000	AWARD RAIIO 0.000000 0.000000 0.000000 0.002039 0.005341 0.011555 0.021362 0.027868 0.041850 0.074184 0.184199  0.971 AWARD RAIIO 0.000000 0.0000000 0.0000000	8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 11,591,488 95,757,324  Payroll 7,866,413 8,732,701 9,102,411	ULTIMATE AWARDED 0.000000 0.000000 0.000009 0.00039 0.005341 0.011555 0.021362 0.027868 0.041850 0.074184 0.184199  EXPECTED ULTIMATE AWARDED 0.000000 0.000000	Average  Weekly Wage  836 838 845 858 888 917 932 951 978 995 1,025  Statewide Average  Weekly Wage  836 845 858	Factor 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Miner Years 171.8 180.1 245.0 207.5 163.2 174.4 197.5 165.0 159.0 202.9 1,866.4  Estimated Miner Years 168.8 185.4 190.3	Claims per 100  Miner Years	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average Federal BITUMINOUS  YEAR 2009 2010 2011 2012	REPORTED	BNR F	PENDING 0 0 0 0 0 0 0 0 0 0 0 0 40.0%)	DENIED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0000 0.0000 0.0000 0.0001 0.0001 0.0021 0.0287 0.0287 0.0431 0.0764 0.1897	PENDING 0.0000 0.0000 0.0000 0.0005 0.0119 0.0220 0.0287 0.0431 0.0764 0.1897  BBNR + PENDING 0.0000 0.0000 0.0000 0.0000	AWARD RAIIO 0.000000 0.000000 0.000000 0.002039 0.005341 0.011555 0.021362 0.027868 0.041850 0.074184 0.184199  0.971 AWARD RAIIO 0.000000 0.000000 0.000000	8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 11,591,488 95,757,324 Payroll 7,866,413 8,732,701 9,102,411 9,047,745	ULTIMATE AWARDED 0.000000 0.000000 0.000000 0.000000 0.000000	Average Weekly Wage  836 845 858 888 917 932 951 978 995 1,025  Statewide Average Weekly Wage 836 845 858 888	Factor 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Miner Years 171.8 180.1 245.0 207.5 163.2 174.4 197.5 165.0 159.0 202.9 1.866.4  Estimated Miner Years 168.8 185.4 190.3 182.8	Claims per 100  Miner Years	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average Federal BITUMINOUS  YEAR 2009 2010 2011 2012 2013	REPORTED	BNR F   AWARDED   O   O   O   O   O   O   O   O   O	PENDING 0 0 0 0 0 0 0 0 0 0 0 0 0 40.0%) actor adjust	DENIED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	BNR   0.0000   0.0001   0.0021   0.0764   0.1897   0.0000   0.0000   0.0000   0.0000   0.0000   0.0000   0.0000   0.0000   0.0008   0.0068   0.00	PENDING 0.0000 0.0000 0.0000 0.001 0.0019 0.0028 0.0119 0.0227 0.0431 0.0764 0.1897  IBNR + PENDING 0.0000 0.0000 0.0000 0.0000	AWARD RATIO 0.000000 0.000000 0.000000 0.002039 0.005341 0.011555 0.021362 0.027868 0.041850 0.74184 0.184199  0.971 AWARD RATIO 0.000000 0.000000 0.000000 0.000000 0.000000	8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 11,591,488 95,757,324 Payroll 7,866,413 8,732,701 9,102,411 9,047,745 10,355,884	ULTIMATE AWARDED (0.000000 0.000000 0.000000 0.001748 0.07484 0.184199 0.000000 0.000000 0.000000 0.000000 0.000000	Average <u>Weekly Wage</u> 836 845 858 888 917 932 951 978 995 1.025 Statewide Average <u>Weekly Wage</u> 836 845 845 848 849	Factor 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Miner Years 171.8 180.1 245.0 207.5 163.2 174.4 197.5 165.0 159.0 202.9 1.866.4  Estimated Miner Years 168.8 185.4 190.3 182.8 202.6	Claims per 100 Miner Years	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average Federal BITUMINOUS  YEAR 2009 2010 2011 2012	REPORTED	BNR F	PENDING 0 0 0 0 0 0 0 0 0 0 0 0 40.0%)	DENIED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0000 0.0000 0.0000 0.0001 0.0001 0.0021 0.0287 0.0287 0.0431 0.0764 0.1897	PENDING 0.0000 0.0000 0.0000 0.0005 0.0119 0.0220 0.0287 0.0431 0.0764 0.1897  BBNR + PENDING 0.0000 0.0000 0.0000 0.0000	AWARD RAIIO 0.000000 0.000000 0.000000 0.002039 0.005341 0.011555 0.021362 0.027868 0.041850 0.074184 0.184199  0.971 AWARD RAIIO 0.000000 0.000000 0.000000 0.001748 0.006603 0.0014953	8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 11,591,488 95,757,324  Payroll 7,866,413 8,732,701 9,102,411 9,047,745 10,355,884 11,721,184	ULTIMATE AWARDED 0.000000 0.000000 0.000000 0.000000 0.000000	Average Weekly Wage 836 838 845 858 888 917 932 951 975 1,025  Statewide Average Weekly Wage Weekly Wage 836 845 858 888 917 932	Factor 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Miner Years 171.8 180.1 245.0 207.5 163.2 174.4 197.5 165.0 159.0 202.9 1.866.4  Estimated Miner Years 168.8 185.4 190.3 182.8	Claims per 100 Miner Years	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average Federal BITUMINOUS  YEAR 2009 2010 2011 2012 2013 2014 2015 2016	REPORTED	BNR F   AWARDED   O   O   O   O   O   O   O   O   O	PENDING 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	DENIED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	BNR   0.0000   0.0001   0.0021   0.0764   0.1897   0.0000   0.0000   0.0000   0.0000   0.0000   0.0000   0.0000   0.0000   0.0000   0.0000   0.0000   0.00154   0.0247   0.0361   0.0247   0.0361   0.0247   0.0361   0.0247   0.0361   0.0247   0.0361   0.0000   0.00154   0.0247   0.0361   0.0247   0.0361   0.0247   0.0361   0.0000   0.00154   0.0247   0.0361   0.0247   0.0361   0.0247   0.0361   0.0000   0.00154   0.0247   0.0361   0.0000   0.00154   0.0247   0.0361   0.0000   0.00154   0.0247   0.0361   0.0000   0.00154   0.0000   0.00154   0.0000   0.00154   0.00000   0.00154   0.00000   0.00154   0.00000   0.00154   0.00000   0.00154   0.00000   0.00154   0.00000   0.00154   0.00000   0.00154   0.000000   0.000000   0.00000   0.000000   0.0000000   0.0000000   0.0000000   0.00000000	PENDING 0.0000 0.0000 0.0000 0.0001 0.0019 0.0228 0.0431 0.0764 0.1897  IBNR + PENDING 0.0000 0.0000 0.0000 0.0000 0.0006 0.0154 0.0261	AWARD RATIO 0.000000 0.000000 0.000000 0.002039 0.005341 0.011555 0.021362 0.027868 0.041850 0.074184 0.184199  0.971 AWARD RATIO 0.000000 0.000000 0.000000 0.000000 0.001748 0.006603 0.014953 0.023984 0.035053	8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 95,757,324 Payroll 7,866,413 8,732,701 9,102,411 9,047,745 10,355,884 11,721,184 11,748,205	ULTIMATE AWARDED (0.000000 0.000000 0.000000 0.001000 0.001000000 0.001000000 0.001000000 0.001000000 0.001000000 0.001000000 0.001000000 0.001000000 0.001000000 0.001000000 0.001000000 0.001000000 0.001000000 0.001000000 0.001000000 0.001000000 0.0010000000 0.001000000 0.001000000 0.001000000 0.001000000 0.00100000 0.000000 0.001000000 0.0010000000 0.0010000000 0.0010000000 0.00100000000	Average Weekly Wage  836 845 858 888 917 932 951 978 995 1.025  Statewide Average Weekly Wage 836 845 858 888 917 932 951 978	Factor 1.072	Miner Years 171.8 180.1 245.0 207.5 163.2 174.4 197.5 165.0 159.0 202.9 1.866.4  Estimated Miner Years 168.8 185.4 190.3 182.8 202.6 225.6 221.6 207.8	Claims per 100 Miner Years	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average Federal BITUMINOUS  YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2016 2017	REPORTED	BNR F	PENDING 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	DENIED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	IBNR 0.0000 0.0000 0.0001 0.0001 0.0021 0.0025 0.0119 0.02287 0.0431 0.0764 0.1897 000 000 1BNR 0.0000 0.0000 0.0000 0.0001 0.0015 0.0015 0.0016 0.00247 0.0247 0.0247	PENDING 0.0000 0.0000 0.0000 0.0001 0.0019 0.0220 0.0287 0.0431 0.0764 0.1897  IBNR + PENDING 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00018 0.0068 0.0068 0.0064 0.0247 0.0361	AWARD RAIIO 0.000000 0.000000 0.000000 0.002039 0.005341 0.011555 0.021362 0.027868 0.041850 0.074184 0.184199   0.971 AWARD RAIIO 0.000000 0.000000 0.000000 0.000000 0.001748 0.014953 0.023984 0.035053 0.023984 0.035053	8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 11,591,488 95,757,324 Payroll 7,866,413 8,732,701 9,102,411 9,047,745 10,355,884 11,721,184 11,721,184 11,721,184 11,748,205 11,327,552	ULTIMATE AWARDED 0.000000 0.000000 0.000000 0.000000 0.000000	Average Weekly Wage 836 838 845 858 888 917 932 951 1,025  Statewide Average Weekly Wage Weekly Wage 836 845 858 888 917 932 951 978 995	Factor 1.072	Miner Years 171.8 180.1 245.0 207.5 163.2 174.4 197.5 165.0 159.0 202.9 1.866.4  Estimated Miner Years 168.8 185.4 190.3 182.8 202.6 221.6 207.8 206.2	Claims per 100 Miner Years	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL AVerage Federal BITUMINOUS  YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018	REPORTED	BNR F   AWARDED   0	PENDING 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	DENIED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	BNR   0.0000   0.0001   0.0028   0.0028   0.0028   0.0028   0.0028   0.0028   0.0028   0.0028   0.0028   0.0028   0.0000   0.00	PENDING 0.0000 0.0000 0.0000 0.0000 0.0011 0.0287 0.0431 0.0764 0.1897  IBNR + PENDING 0.0000 0.0000 0.0000 0.0000 0.0008 0.0006	AWARD RAIIO 0.000000 0.000000 0.000000 0.00239 0.005341 0.011555 0.021362 0.027868 0.041850 0.074184 0.184199  0.971 AWARD RAIIO 0.000000 0.000000 0.000000 0.000000 0.000000	8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 11,591,488 95,757,324  Payroll 7,866,413 8,732,701 10,355,884 11,721,184 11,748,205 11,327,552 11,435,057 11,996,610	ULTIMATE AWARDED 0.000000 0.000000 0.000000 0.000000 0.000000	Average Weekly Wage  836 845 858 888 917 932 951 978 995 1.025  Statewide Average Weekly Wage 836 845 858 888 917 932 951 978	Factor 1.072	Miner Years 171.8 180.1 245.0 207.5 163.2 174.4 197.5 165.0 159.0 202.9 1.866.4  Estimated Miner Years 168.8 185.4 190.3 182.8 202.6 225.6 221.6 207.8 206.2 210.0	Claims per 100 Miner Years	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average Federal BITUMINOUS  YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL	REPORTED	BNR F   AWARDED	PENDING 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	DENIED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	IBNR 0.0000 0.0000 0.0001 0.0001 0.0021 0.0025 0.0119 0.02287 0.0431 0.0764 0.1897 000 000 1BNR 0.0000 0.0000 0.0000 0.0001 0.0015 0.0015 0.0016 0.00247 0.0247 0.0247	PENDING 0.0000 0.0000 0.0000 0.0001 0.0019 0.0220 0.0287 0.0431 0.0764 0.1897  IBNR + PENDING 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00018 0.0068 0.0068 0.0064 0.0247 0.0361	AWARD RAIIO 0.000000 0.000000 0.000000 0.002039 0.005341 0.011555 0.021362 0.027868 0.041850 0.074184 0.184199   0.971 AWARD RAIIO 0.000000 0.000000 0.000000 0.000000 0.001748 0.014953 0.023984 0.035053 0.023984 0.035053	8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 11,591,488 95,757,324 Payroll 7,866,413 8,732,701 9,102,411 9,047,745 10,355,884 11,721,184 11,721,184 11,721,184 11,748,205 11,327,552	ULTIMATE AWARDED 0.000000 0.000000 0.000000 0.000000 0.000000	Average Weekly Wage 836 838 845 858 888 917 932 951 1,025  Statewide Average Weekly Wage Weekly Wage 836 845 858 888 917 932 951 978 995	Factor 1.072	Miner Years 171.8 180.1 245.0 207.5 163.2 174.4 197.5 165.0 159.0 202.9 1.866.4  Estimated Miner Years 168.8 185.4 190.3 182.8 202.6 221.6 207.8 206.2	Claims per 100 Miner Years	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average Federal BITUMINOUS  YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average Federal	REPORTED	BNR F   AWARDED   0	PENDING 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	DENIED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	BNR   0.0000   0.0001   0.0028   0.0028   0.0028   0.0028   0.0028   0.0028   0.0028   0.0028   0.0028   0.0028   0.0000   0.00	PENDING 0.0000 0.0000 0.0000 0.0000 0.0011 0.0287 0.0431 0.0764 0.1897  IBNR + PENDING 0.0000 0.0000 0.0000 0.0000 0.0008 0.0006	AWARD RAIIO 0.000000 0.000000 0.000000 0.00239 0.005341 0.011555 0.021362 0.027868 0.041850 0.074184 0.184199  0.971 AWARD RAIIO 0.000000 0.000000 0.000000 0.000000 0.000000	8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 11,591,488 95,757,324  Payroll 7,866,413 8,732,701 10,355,884 11,721,184 11,748,205 11,327,552 11,435,057 11,996,610	ULTIMATE AWARDED 0.000000 0.000000 0.000000 0.000000 0.000000	Average Weekly Wage 836 838 845 858 888 917 932 951 1,025  Statewide Average Weekly Wage Weekly Wage 836 845 858 888 917 932 951 978 995	Factor 1.072	Miner Years 171.8 180.1 245.0 207.5 163.2 174.4 197.5 165.0 159.0 202.9 1.866.4  Estimated Miner Years 168.8 185.4 190.3 182.8 202.6 225.6 221.6 207.8 206.2 210.0	Claims per 100 Miner Years	

Source: Claim counts - CMCRB OD Database as of 08/06/2019

IBNR: Exhibit VII-C-6, p.4

Payroll- Exhibit X-A

The Award Ratios for all classes were set equal to the Grand Total Award Ratio calculated on Exhibit VII-B-2 Page 3.

The Grand Total Award Ratio is equal to Awarded \* (Awarded plus Denied) = 34 / [34 + 01] = 0.971

The Wage Adjustment Factor was derived from CMCRB data. See Exhibit X-G

Estimated Miner Years = Payroll / [SAWW x Adj. Factor x 52]

Frequency per 100 Miner Years = (Expected Ult. Awarded / Est. Miner Years) x 100

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Run Date: September 18, 2019 - 09:15:49 AM

## STATE OCCUPATIONAL DISEASE FREQUENCY WITH FEDERAL EXCESS FREQUENCY

ANTHRACITE	ANTHRACITE PREP PLANT (1026)													
7			actor adjus	ted by 1.00	00		0.971		EXPECTED	Statewide		Estimated	Frequency	
YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	IBNR + PENDING	AWARD RATIO	Payroll	ULTIMATE AWARDED	Average Weekly Wage	Adjustment Factor	Miner Years	Claims per 100 Miner Years	Weighted Frequency
2009	0	0	0	0	0.0000	0.0000	0.000000	6,749,748	0.000000	836	1.072	144.8	0.000000	
2010 2011	1 0	1 0	0	0	0.0000	0.0000	0.000000	5,762,086	1.000000	845 858	1.072 1.072	122.3 151.3	0.817661	
2011	0	0	0	0	0.0000	0.0000 0.0043	0.000000 0.004175	7,236,583 8,671,140	0.000000 0.004175	888	1.072	175.2	0.000000 0.002383	
2013	0	0	0	0	0.0136	0.0136	0.013206	8,265,665	0.013206	917	1.072	161.7	0.008167	
2014	1	1	0	0	0.0271	0.0271	0.026314	8,234,771	1.026314	932	1.072	158.5	0.647517	
2015 2016	1	1 0	0	0	0.0400 0.0559	0.0400 0.0559	0.038840	7,606,274	1.038840	951 978	1.072 1.072	143.5 128.7	0.723930 0.042175	
2016	1	1	0	0	0.0559	0.0559	0.054279 0.091857	7,018,927 7,746,154	0.054279 1.091857	978 995	1.072	128.7	0.042175	
2017	0	0	0	0	0.1589	0.1589	0.071037	9,643,085	0.154292	1,025	1.072	168.8	0.091405	
TOTAL	4	4	0	0	0.3944	0.3944	0.382962	76,934,433	4.382962			1,494.5	3.114810	
	e: State Frequ												0.311481	
Federal	Excess Frequ	ency (times	40.0%)										0.124592	
BITUMINOUS	PREP PLANT (													
		IBNR F	actor adjus	ted by 0.40	00	IBNR +	0.971 AWARD		EXPECTED ULTIMATE	Statewide Average	Adjustment	Estimated Miner	Frequency Claims per 100	
YEAR	REPORTED	AWARDED	PENDING	DENIED	IBNR	PENDING	RATIO	Payroll	AWARDED	Weekly Wage	Factor	Years	Miner Years	
2009	0	0	0	0	0.0000	0.0000	0.000000	19,828,012	0.000000	836	1.549	294.5	0.000000	
2010	0	0	0	0	0.0000	0.0000	0.000000	26,313,130	0.000000	845	1.549	386.6	0.000000	
2011	0	0	0	0	0.0000	0.0000	0.000000	35,155,068	0.000000	858	1.549	508.7	0.000000	
2012 2013	0	0	0	0	0.0068 0.0226	0.0068 0.0226	0.006603 0.021945	34,211,729 34,253,697	0.006603 0.021945	888 917	1.549 1.549	478.3 463.7	0.001380 0.004732	
2013	0	0	0	0	0.0220	0.0220	0.055638	43,520,040	0.055638	932	1.549	579.7	0.009598	
2015	0	0	0	0	0.0706	0.0706	0.068553	33,564,176	0.068553	951	1.549	438.2	0.015644	
2016	1	0	1	0	0.0755	1.0755	1.044311	23,689,882	1.044311	978	1.549	300.7	0.347293	
2017 2018	0	0	0	0	0.1407 0.2113	0.1407 0.2113	0.136620 0.205172	28,816,678 32,053,553	0.136620 0.205172	995 1,025	1.549 1.549	359.6 388.2	0.037992 0.052852	
TOTAL	1		1		0.5848	1.5848	1.538841	311,405,965	1.538841	1,023	1.547	4,198.2	0.052832	
	e: State Frequ	-		· ·	0.00-0	1.5040	1.000041	011,400,700	1.0000+1			4,170.2	0.046949	
	Excess Frequ		40.0%)										0.018780	
TOTAL OTHER	CLASSES						0.971		EXPECTED	Statewide		Estimated	Frequency	
TOTAL OTHER	CLASSES					IBNR +	0.971 AWARD		EXPECTED ULTIMATE	Statewide Average	Adjustment	Estimated Miner	Frequency Claims per 100	
TOTAL OTHER	CLASSES REPORTED	AWARDED	PENDING	DENIED	<u>IBNR</u>	IBNR + PENDING		<u>Payroll</u>	EXPECTED ULTIMATE AWARDED	Statewide Average Weekly Wage	Adjustment <u>Factor</u>		Frequency Claims per 100 Miner Years	
<u>YEAR</u> 2009		AWARDED 0	0	0	0.0000	PENDING 0.0000	AWARD RATIO 0.000000	48,548,532	ULTIMATE AWARDED 0.000000	Average Weekly Wage 836		Miner <u>Years</u> 910.8	Claims per 100 Miner Years 0.000000	
<u>YEAR</u> 2009 2010	REPORTED 0	0	0	0	0.0000	PENDING 0.0000 0.0000	AWARD <u>RATIO</u> 0.000000 0.000000	48,548,532 55,531,499	ULTIMATE <u>AWARDED</u> 0.000000 1.000000	Average <u>Weekly Wage</u> 836 845		Miner <u>Years</u> 910.8 1,006.9	Claims per 100 <u>Miner Years</u> 0.000000 0.099315	
<u>YEAR</u> 2009 2010 2011	REPORTED 0 1 0	0 1 0	0 0 0	0 0 0	0.0000 0.0000 0.0000	PENDING 0.0000 0.0000 0.0000	AWARD <u>RATIO</u> 0.000000 0.000000 0.000000	48,548,532 55,531,499 67,989,438	ULTIMATE <u>AWARDED</u> 0.000000 1.000000 0.000000	Average <u>Weekly Wage</u> 836 845 858		Miner <u>Years</u> 910.8 1,006.9 1,195.2	Claims per 100 <u>Miner Years</u> 0.000000 0.099315 0.000000	
YEAR 2009 2010 2011 2012	REPORTED  0 1 0 0 0	0 1 0 0	0 0 0	0 0 0 0	0.0000 0.0000 0.0000 0.0163	PENDING 0.0000 0.0000 0.0000 0.0163	AWARD <u>RATIO</u> 0.000000 0.000000 0.000000 0.015827	48,548,532 55,531,499 67,989,438 68,749,931	ULTIMATE <u>AWARDED</u> 0.000000 1.000000 0.000000 0.015827	Average  Weekly Wage  836  845  858  888		Miner <u>Years</u> 910.8 1,006.9 1,195.2 1,176.0	Claims per 100 <u>Miner Years</u> 0.000000 0.099315 0.000000 0.001346	
<u>YEAR</u> 2009 2010 2011	REPORTED 0 1 0	0 1 0	0 0 0	0 0 0	0.0000 0.0000 0.0000	PENDING 0.0000 0.0000 0.0000	AWARD <u>RATIO</u> 0.000000 0.000000 0.000000	48,548,532 55,531,499 67,989,438	ULTIMATE <u>AWARDED</u> 0.000000 1.000000 0.000000	Average <u>Weekly Wage</u> 836 845 858		Miner <u>Years</u> 910.8 1,006.9 1,195.2	Claims per 100 <u>Miner Years</u> 0.000000 0.099315 0.000000	
YEAR 2009 2010 2011 2012 2013	REPORTED 0 1 0 0 0 0 0	0 1 0 0	0 0 0 0	0 0 0 0	0.0000 0.0000 0.0000 0.0163 0.0524	PENDING 0.0000 0.0000 0.0000 0.0163 0.0524	AWARD <u>RATIO</u> 0.000000 0.000000 0.000000 0.015827 0.050880	48,548,532 55,531,499 67,989,438 68,749,931 67,035,206	ULTIMATE <u>AWARDED</u> 0.000000 1.000000 0.000000 0.015827 0.050880	Average <u>Weekly Wage</u> 836 845 858 888 917		Miner <u>Years</u> 910.8 1,006.9 1,195.2 1,176.0 1,105.0	Claims per 100 <u>Miner Years</u> 0.000000 0.099315 0.000000 0.001346 0.004605	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016	REPORTED 0 1 0 0 0 0 1 1 1 1 1 1	0 1 0 0 0 1 1	0 0 0 0 0 0 0	0 0 0 0 0 0	0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 0.2115	PENDING 0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 1.2115	AWARD <u>RATIO</u> 0.000000 0.000000 0.000000 0.015827 0.050880 0.115258 0.162740 1.176367	48,548,532 55,531,499 67,989,438 68,749,931 67,035,206 77,808,252 68,310,739 55,838,525	ULTIMATE <u>AWARDED</u> 0.000000 1.000000 0.000000 0.015827 0.050880 1.115258 1.162740 1.176367	Average <u>Weekly Wage</u> 836 845 858 888 917 932 951 978		Miner <u>Years</u> 910.8 1,006.9 1,195.2 1,176.0 1,105.0 1,239.6 1,093.7 890.4	Claims per 100  Miner Years 0.000000 0.099315 0.000000 0.001346 0.004605 0.089969 0.106312 0.132117	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017	REPORTED 0 0 1 0 0 0 0 1 1 1 1 1 1 1	0 1 0 0 0 1 1 0	0 0 0 0 0 0	0 0 0 0 0 0	0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 0.2115 0.3587	PENDING 0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 1.2115 0.3587	AWARD <u>RATIO</u> 0.000000 0.000000 0.0050827 0.050880 0.115258 0.162740 1.176367 0.348298	48,548,532 55,531,499 67,989,438 68,749,931 67,035,206 77,808,252 68,310,739 55,838,525 61,832,711	ULTIMATE <u>AWARDED</u> 0.000000 1.000000 0.005080 0.015827 0.050880 1.115258 1.162740 1.176367 1.348298	Average  Weekly Wage 836 845 858 888 917 932 951 978 995		Miner <u>Years</u> 910.8 1,006.9 1,195.2 1,176.0 1,105.0 1,239.6 1,093.7 890.4 954.9	Claims per 100  Miner Years 0.000000 0.099315 0.000000 0.001346 0.004605 0.089969 0.106312 0.132117 0.141198	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018	REPORTED 0 0 1 0 0 0 0 1 1 1 1 1 1 0 0	0 1 0 0 0 1 1 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 0.2115 0.3587 0.5588	PENDING 0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 1.2115 0.3587 0.5588	AWARD <u>RATIO</u> 0.000000 0.000000 0.000000 0.015827 0.050880 0.115258 0.162740 1.176367 0.348298 0.542595	48,548,532 55,531,499 67,989,438 68,749,931 67,035,206 77,808,252 68,310,739 55,838,525 61,832,711 70,301,657	ULTIMATE <u>AWARDED</u> 0.000000 1.000000 0.000000 0.015827 0.050880 1.115258 1.162740 1.176367 1.348298 0.542595	Average <u>Weekly Wage</u> 836 845 858 888 917 932 951 978		Miner <u>Years</u> 910.8 1,006.9 1,195.2 1,176.0 1,105.0 1,239.6 1,093.7 890.4 954.9 1,057.7	Claims per 100  Miner Years 0.000000 0.099315 0.000000 0.001346 0.004405 0.089969 0.106312 0.132117 0.141198 0.051299	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018	REPORTED 0 1 0 0 0 1 1 1 1 1 1 0 5	0 1 0 0 0 1 1 0 1 0	0 0 0 0 0 0	0 0 0 0 0 0	0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 0.2115 0.3587	PENDING 0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 1.2115 0.3587	AWARD <u>RATIO</u> 0.000000 0.000000 0.0050827 0.050880 0.115258 0.162740 1.176367 0.348298	48,548,532 55,531,499 67,989,438 68,749,931 67,035,206 77,808,252 68,310,739 55,838,525 61,832,711	ULTIMATE <u>AWARDED</u> 0.000000 1.000000 0.005080 0.015827 0.050880 1.115258 1.162740 1.176367 1.348298	Average  Weekly Wage 836 845 858 888 917 932 951 978 995		Miner <u>Years</u> 910.8 1,006.9 1,195.2 1,176.0 1,105.0 1,239.6 1,093.7 890.4 954.9	Claims per 100 Miner Years 0.000000 0.099315 0.000000 0.001346 0.004605 0.089969 0.106312 0.132117 0.141198 0.051299 0.626161	0.067045
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL	REPORTED 0 0 1 0 0 0 0 1 1 1 1 1 1 0 0	0 1 0 0 0 1 1 0 1 0 4	0 0 0 0 0 0 0 1 0 	0 0 0 0 0 0 0	0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 0.2115 0.3587 0.5588	PENDING 0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 1.2115 0.3587 0.5588	AWARD <u>RATIO</u> 0.000000 0.000000 0.000000 0.015827 0.050880 0.115258 0.162740 1.176367 0.348298 0.542595	48,548,532 55,531,499 67,989,438 68,749,931 67,035,206 77,808,252 68,310,739 55,838,525 61,832,711 70,301,657	ULTIMATE <u>AWARDED</u> 0.000000 1.000000 0.000000 0.015827 0.050880 1.115258 1.162740 1.176367 1.348298 0.542595	Average  Weekly Wage 836 845 858 888 917 932 951 978 995		Miner <u>Years</u> 910.8 1,006.9 1,195.2 1,176.0 1,105.0 1,239.6 1,093.7 890.4 954.9 1,057.7	Claims per 100  Miner Years 0.000000 0.099315 0.000000 0.001346 0.004405 0.089969 0.106312 0.132117 0.141198 0.051299	0.067045 0.026818
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average Federal	REPORTED  0 1 0 0 0 1 1 1 1 0 5 s: State Frequ	0 1 0 0 0 1 1 0 1 0 4	0 0 0 0 0 0 0 1 0 	0 0 0 0 0 0 0	0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 0.2115 0.3587 0.5588	PENDING 0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 1.2115 0.3587 0.5588	AWARD <u>RATIO</u> 0.000000 0.000000 0.000000 0.015827 0.050880 0.115258 0.162740 1.176367 0.348298 0.542595	48,548,532 55,531,499 67,989,438 68,749,931 67,035,206 77,808,252 68,310,739 55,838,525 61,832,711 70,301,657	ULTIMATE <u>AWARDED</u> 0.000000 1.000000 0.000000 0.015827 0.050880 1.115258 1.162740 1.176367 1.348298 0.542595	Average  Weekly Wage 836 845 858 888 917 932 951 978 995		Miner <u>Years</u> 910.8 1,006.9 1,195.2 1,176.0 1,105.0 1,239.6 1,093.7 890.4 954.9 1,057.7	Claims per 100 Miner Years	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL	REPORTED  0 1 0 0 0 1 1 1 1 0 5 s: State Frequ	0 1 0 0 0 1 1 0 1 0 4	0 0 0 0 0 0 0 1 0 	0 0 0 0 0 0 0	0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 0.2115 0.3587 0.5588	PENDING 0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 1.2115 0.3587 0.5588 2.4840	AWARD <u>RATIO</u> 0.000000 0.000000 0.000000 0.015928 0.115258 0.162740 1.176347 0.348298 0.542595 2.411964	48,548,532 55,531,499 67,989,438 68,749,931 67,035,206 77,808,252 68,310,739 55,838,525 61,832,711 70,301,657	ULTIMATE <u>AWARDED</u> 0.000000 0.000000 0.015827 0.050880 1.115258 1.162740 1.176347 1.348298 0.542595 6.411964	Average Weekly Wage 836 836 845 858 917 932 951 978 995 1,025	Factor	Miner Years 910.8 1,006.9 1,195.2 1,176.0 1,105.0 1,239.6 1,093.7 890.4 954.9 1,057.7 10,630.2	Claims per 100 Miner Years	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average Federal	REPORTED  0 1 0 0 0 1 1 1 1 0 5 e: State Freque	0 1 0 0 0 0 1 1 1 0 1 0 4	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 0.2115 0.3587 0.5588 1.4840	PENDING 0,0000 0,0000 0,0163 0,0524 0,1187 0,1676 1,2115 0,3587 0,5588 2,4840	AWARD RATIO 0.000000 0.000000 0.000000 0.015827 0.050880 0.115258 0.162740 1.176367 0.348298 0.542595 2.411964	48,548,532 55,531,499 67,989,438 68,749,931 67,035,206 77,808,252 68,310,739 55,838,525 641,946,490	ULTIMATE AWARDED 0.000000 1.000000 0.000000 0.0015827 0.050880 1.115258 1.162740 1.176367 1.348298 0.542595 6.411964	Average <u>Weekly Wage</u> 836 845 858 888 917 932 951 978 995 1,025	<u>Factor</u>	Miner Years 910.8 1,006.9 1,195.2 1,176.0 1,105.0 1,239.6 1,093.7 890.4 954.9 1,057.7 10,630.2	Claims per 100  Miner Years	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average Federal GRAND TOTAL	REPORTED  0 1 0 0 1 1 1 1 1 5 s: State Frequexex Frequex	0 1 0 0 0 0 0 1 1 1 0 0 0 1 1 0 0 1 1 0 0 0 0 0 1 0	0 0 0 0 0 0 0 0 0 0 1 0 0 1	0 0 0 0 0 0 0 0 0 0	0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 0.2115 0.3587 0.5588 1.4840	PENDING 0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 1.2115 0.3587 0.5588 2.4840	AWARD RATIO 0.000000 0.000000 0.000000 0.015827 0.050880 0.115258 0.162740 1.176367 0.348298 0.542595 2.411964	48,548,532 55,531,499 67,989,438 68,749,931 67,035,206 77,808,252 68,310,739 55,838,525 61,832,711 70,301,657 641,946,490	ULTIMATE AWARDED 0.000000 1.000000 0.000000 0.015827 0.050380 1.115258 1.162740 1.176367 1.348298 0.542595 6.411964 EXPECTED ULTIMATE AWARDED	Average Weekly Wage  836 836 845 858 888 917 932 951 978 995 1,025	Factor	Miner Years 910.8 1,006.9 1,195.2 2,1,176.0 1,105.0 1,239.6 1,093.7 890.4 954.9 1,057.7 10,630.2	Claims per 100 Miner Years	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average Federal	REPORTED  0 1 0 0 0 1 1 1 1 0 5 e: State Freque	0 1 0 0 0 0 1 1 1 0 1 0 4	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 0.2115 0.3587 0.5588 1.4840	PENDING 0,0000 0,0000 0,0163 0,0524 0,1187 0,1676 1,2115 0,3587 0,5588 2,4840	AWARD RATIO 0.000000 0.000000 0.000000 0.015827 0.050880 0.115258 0.162740 1.176367 0.348298 0.542595 2.411964	48,548,532 55,531,499 67,989,438 68,749,931 67,035,206 68,310,739 55,838,525 61,832,711 70,301,657 641,946,490 Payroll 229,462,394	ULTIMATE AWARDED 0.000000 1.000000 0.000000 0.0015827 0.050880 1.115258 1.162740 1.176367 1.348298 0.542595 6.411964	Average <u>Weekly Wage</u> 836 845 858 888 917 932 951 978 995 1,025	<u>Factor</u>	Miner Years 910.8 1,006.9 1,195.2 1,176.0 1,105.0 1,239.6 1,093.7 890.4 954.9 1,057.7 10,630.2	Claims per 100  Miner Years	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average Federal GRAND TOTAL	REPORTED	0 1 1 0 0 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 1 0 0 0 1 0 0 1 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 0.2115 0.3587 0.5588 1.4840	PENDING 0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 1.2115 0.3587 0.5588 2.4840	AWARD RATIO 0.000000 0.000000 0.000000 0.015827 0.050880 0.115280 0.162740 1.176337 0.348298 2.411964  0.971 AWARD RATIO 0.0000000	48,548,532 55,531,499 67,989,438 68,749,931 67,035,206 77,808,252 68,310,739 55,838,525 61,832,711 70,301,657 641,946,490	ULTIMATE AWARDED (0.00000) 0.00000 0.00000 0.015827 0.05880 1.115258 1.162740 1.176367 1.348298 0.54259 6.411964    EXPECTED ULTIMATE AWARDED (0.000000 0.00000000000000000000000000	Average <u>Weekly Wage</u> 836  845  858  888  917  932  951  978  995  1,025   Statewide Average <u>Weekly Wage</u> 836	<u>Factor</u>	Miner Years 910.8 1,006.9 1,195.2 1,176.0 1,105.0 1,093.7 890.4 954.9 10,630.2 Estimated Miner Years 4,123.3	Claims per 100  Miner Years 0.000000 0.099315 0.000000 0.001346 0.004605 0.089969 0.106312 0.132117 0.141198 0.051299 0.6226161 0.062616 0.025046  Frequency Claims per 100 Miner Years 0.000000	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average Federal  GRAND TOTAL  YEAR 2009 2010 2011 2012	REPORTED	0 1 1 0 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 1 0 0 1 40.0%)	0 0 0 0 0 0 0 0 0 0 0 0	0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 0.2115 0.3587 0.5588 1.4840 IBNR 0.0000 0.0000 0.0000	PENDING 0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 1.2115 0.3587 0.5588 2.4840  IBNR + PENDING 0.0000 0.0000 0.0000 0.0000 0.0000	AWARD RATIO 0.000000 0.000000 0.000000 0.0115827 0.050880 0.115288 0.162740 1.176337 0.34829 2.411964  0.971 AWARD RATIO 0.000000 0.000000 0.000000	48,548,532 55,531,499 67,989,438 68,749,931 67,035,206 68,310,739 55,838,525 641,946,490 Payroll 229,462,394 269,231,509 326,146,817 55,531,819 269,231,509 326,146,817	ULTIMATE AWARDED (0.00000) 0.000000 0.0015827 0.050880 1.115258 1.162740 1.176367 1.348298 0.542595 6.411964    EXPECTED ULTIMATE AWARDED (0.000000 1.000000 5.000000 6.106163	Average Weekly Wage  836 845 858 888 917 932 951 978 995 1,025  Statewide Average Weekly Wage 836 845 858	<u>Factor</u>	Miner Years 910.8 1,006.9 1,195.2 1,176.0 1,105.0 1,239.6 9,004.9 954.9 1,057.7 10,630.2 Estimated Miner Years 4,123.3 4,723.9 5,609.4 5,420.2	Claims per 100  Miner Years	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average Federal GRAND TOTAL  YEAR 2009 2010 2011 2012 2013	REPORTED	0 1 1 0 0 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 1 0 0 0 1 1 40.0%)	0 0 0 0 0 0 0 0 0 0 0	0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 0.2115 0.3587 0.5588 1.4840 BBNR 0.0000 0.0000 0.0000 0.1392 0.4103	PENDING 0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1678 0.2115 0.3588 2.4840  IBNR + PENDING 0.0000 0.0000 1.1392 2.41392	AWARD RATIO 0.000000 0.000000 0.000000 0.015827 0.050880 0.115258 0.162740 1.176367 0.348298 0.542595 2.4411964  0.971 AWARD RATIO 0.000000 0.0000000 0.0000000 1.106163	48,548,532 55,531,499 67,989,438 68,749,931 67,035,206 68,310,739 55,838,525 61,832,711 70,301,657 641,946,490 Payroll 229,462,394 269,231,509 324,841,755 300,963,743	ULTIMATE AWARDED 0.000000 1.000000 0.015827 0.050880 1.115258 1.162740 1.176367 1.348298 0.542595 6.411964 EXPECTED ULTIMATE AWARDED 0.000000 5.000000 6.106163 7.340401	Average Weekly Wage  836 845 858 888 917 932 951 978 995 1.025  Statewide Average Weekly Wage 836 845 858 888 917	<u>Factor</u>	Miner Years 910.8 1,006.9 1,195.2 1,176.0 1,105.0 1,239.6 1,093.7 890.4 954.9 10,630.2 Estimated Miner Years 4,123.3 4,723.9 5,609.4 5,420.2 4,779.3	Claims per 100  Miner Years	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average Federal GRAND TOTA  YEAR 2009 2010 2011 2012 2013 2014	REPORTED  0 1 0 0 1 1 1 1 1 5 5: State Frequexcess Frequexcess Frequexcess Frequexcess Frequexcess Frequexces Frequexces Frequexcess Frequ	0 1 0 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 1 0 0 1 40.0%)	0 0 0 0 0 0 0 0 0 0 0	0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 0.2115 0.3587 0.5588 1.4840 IBNR 0.0000 0.0000 0.0000 0.1392 0.4103 1.4803	PENDING 0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 1.2115 0.3587 0.5588 2.4840  IBNR + PENDING 0.0000 0.0000 1.1392 2.4103 1.4803	AWARD RATIO 0.000000 0.000000 0.000000 0.015827 0.050880 0.115258 0.162740 1.176367 0.348298 0.542595 2.411964  0.971 AWARD RATIO 0.000000 0.0000000 1.106163 2.340401 1.437352	48,548,532 55,531,499 67,989,438 68,749,931 67,035,206 67,808,252 68,310,739 55,838,525 61,832,711 70,301,657 641,946,490 Payroll 229,462,394 269,231,509 324,841,755 326,146,817 300,963,743 423,814,574 423,814,574	ULTIMATE AWARDED 0.000000 0.000000 0.015827 0.050880 1.115258 1.162740 1.176367 1.348298 0.542595 6.411964  EXPECTED ULTIMATE AWARDED 0.000000 1.000000 1.000000 6.106163 7.340401 7.344041	Average Weekly Wage  836 845 858 888 917 932 951 1,025  Statewide Average Weekly Wage Weekly Wage 836 845 858 888 917 932	<u>Factor</u>	Miner Years 910.8 1,006.9 1,195.2 1,176.0 1,105.0 1,239.6 1,093.7 890.4 954.9 1,057.7 10,630.2 Estimated Miner Years 4,123.3 4,723.9 5,609.4 5,420.2 4,779.3 6,291.9	Claims per 100  Miner Years	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average Federal  GRAND TOTA  YEAR 2009 2010 2011 2012 2013 2014 2015	REPORTED	0 1 1 0 0 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 1 0 0 0 1 1 40.0%)	0 0 0 0 0 0 0 0 0 0 0	0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 0.2115 0.3587 0.5588 1.4840 IBNR 0.0000 0.0000 0.0000 0.1392 0.4103 1.4803	PENDING 0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 1.2115 0.3587 0.5588 2.4840  BBNR + PENDING 0.0000 0.0000 0.0000 1.1392 2.4103 1.4803 3.0293	AWARD RATIO 0.000000 0.000000 0.000000 0.015827 0.05880 0.115280 0.162740 1.176337 0.34829 2.411964  0.971 AWARD RATIO 0.000000 0.000000 0.000000 0.000000 0.000000	48,548,532 55,531,499 67,989,438 68,749,931 67,035,206 68,310,739 55,838,525 641,946,490 Payroll 29,462,394 269,231,509 324,841,755 326,146,817 300,963,743 423,814,574 350,172,362	ULTIMATE AWARDED (0.000000) 1.000000 1.000000 0.015827 0.05880 1.115258 1.162740 1.176367 1.348298 0.542595 6.411964    EXPECTED ULTIMATE AWARDED (0.000000 1.0000000 1.0000000 1.0000000 1.00000000	Average Weekly Wage  836 845 858 888 917 932 951 1,025  Statewide Average Weekly Wage 836 845 858 888 917 932 951	<u>Factor</u>	Miner Years 910.8 1,006.9 1,195.2 1,176.0 1,105.0 1,239.6 9,04 955.4 9,10,57.7 10,630.2 Estimated Miner Years 4,123.3 4,723.9 5,609.4 5,420.2 4,779.3 6,291.9 5,153.2	Claims per 100  Miner Years	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average Federal GRAND TOTA  YEAR 2009 2010 2011 2012 2013 2014	REPORTED  0 1 0 0 1 1 1 1 1 5 5: State Frequexcess Frequexcess Frequexcess Frequexcess Frequexcess Frequexces Frequexces Frequexcess Frequ	0 1 1 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 1 0 0 1 40.0%)	0 0 0 0 0 0 0 0 0 0 0 0 0	0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 0.2115 0.3587 0.5588 1.4840 IBNR 0.0000 0.0000 0.0000 0.1392 0.4103 1.4803	PENDING 0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 1.2115 0.3587 0.5588 2.4840  IBNR + PENDING 0.0000 0.0000 1.1392 2.4103 1.4803	AWARD RATIO 0.000000 0.000000 0.000000 0.015827 0.050880 0.115258 0.162740 1.176367 0.348298 0.542595 2.411964  0.971 AWARD RATIO 0.000000 0.0000000 1.106163 2.340401 1.437352	48,548,532 55,531,499 67,989,438 68,749,931 67,035,206 67,808,252 68,310,739 55,838,525 61,832,711 70,301,657 641,946,490 Payroll 229,462,394 269,231,509 324,841,755 326,146,817 300,963,743 423,814,574 423,814,574	ULTIMATE AWARDED 0.000000 0.000000 0.015827 0.050880 1.115258 1.162740 0.542595 6.411964 EXPECTED ULTIMATE AWARDED 0.000000 1.000000 1.000000 6.106163 7.340401 7.347352	Average Weekly Wage  836 845 858 888 917 932 951 1,025  Statewide Average Weekly Wage Weekly Wage 836 845 858 888 917 932	<u>Factor</u>	Miner Years 910.8 1,006.9 1,195.2 1,176.0 1,105.0 1,239.6 1,093.7 890.4 954.9 1,057.7 10,630.2 Estimated Miner Years 4,123.3 4,723.9 5,609.4 5,420.2 4,779.3 6,291.9	Claims per 100  Miner Years	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average Federal GRAND TOTAL  YEAR 2009 2010 2011 2012 2013 2014 2015 2016	REPORTED	0 1 1 0 0 0 0 1 1 1 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 1 0 0 0 1 40.0%)	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 0.2115 0.3587 0.5588 1.4840 IBNR 0.0000 0.0000 0.0000 0.1392 0.4103 1.4803 2.0293	PENDING 0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1678 0.2115 0.3588 2.4840  IBNR + PENDING 0.0000 0.0000 1.3192 2.4103 1.4803 3.0293 3.1708	AWARD RATIO 0.000000 0.000000 0.000000 0.015827 0.050880 0.115258 0.162740 1.176367 0.348298 0.542595 2.411964  0.971 AWARD RATIO 0.000000 0.0000000 0.0000000 1.106163 2.340401 1.437352 2.941470	48,548,532 55,531,499 67,989,438 68,749,931 67,035,206 68,310,739 55,838,525 641,946,490 Payroll 229,462,394 269,231,509 324,841,755 300,963,743 423,814,574 433,814,574 433,814,574 254,559,392	ULTIMATE AWARDED 0.000000 1.000000 0.015827 0.050880 1.115258 1.162740 1.176367 1.348298 0.542595 6.411964 EXPECTED ULTIMATE AWARDED 0.000000 5.000000 6.106163 6.106163 7.340401 9.437352 7.941470 7.078798	Average Weekly Wage  836 845 858 888 917 932 951 978 995 1,025  Statewide Average Weekly Wage 836 845 858 888 917 932 951 978	<u>Factor</u>	Miner Years 910.8 1,006.9 1,195.2 1,176.0 1,105.0 1,239.6 1,093.7 890.4 954.9 10,630.2 Estimated Miner Years 4,123.3 4,723.9 5,609.4 5,420.2 4,779.3 6,291.9 5,153.2 3,666.4	Claims per 100 Miner Years	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average Federal GRAND TOTAL  YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL	REPORTED   0	0 1 1 0 0 0 0 1 1 1 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 1 0 0 0 1 40.0%)	DENIED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 0.2115 0.3587 0.5588 1.4840 1.4840 1.4840 0.0000 0.0000 0.0000 0.1392 0.4103 1.4803 2.0293 2.1708 3.9197	PENDING 0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 1.2115 0.3587 0.5588 2.4840  IBNR + PENDING 0.0000 0.0000 1.1392 2.4103 3.1708 3.1708 3.9197	AWARD RATIO 0.000000 0.000000 0.000000 0.015827 0.050880 0.115258 0.162740 0.348298 0.542595 2.411964  0.971 AWARD RATIO 0.000000 0.000000 1.106163 2.340401 1.437352 2.941470 3.078798	48,548,532 55,531,499 67,989,438 68,749,931 67,035,206 67,035,206 68,310,739 55,838,525 641,946,490 Payroll 229,462,394 269,231,509 324,841,755 326,146,817 300,963,743 423,814,574 433,814,574 432,	ULTIMATE AWARDED 0.000000 0.000000 0.015827 0.050880 1.115258 1.162740 1.348298 0.542595 6.411964 EXPECTED ULTIMATE AWARDED 0.000000 5.000000 6.106163 7.340401 9.437352 7.941470 7.078798 4.805980	Average Weekly Wage  836 845 858 888 917 932 951 1,025  Statewide Average Weekly Wage 836 845 845 858 888 917 932 951 978	<u>Factor</u>	Miner Years 910.8 1,006.9 1,195.2 1,176.0 1,105.0 1,239.6 1,093.7 890.4 954.9 1,057.7 10,630.2 Estimated Miner Years 4,123.3 4,723.9 5,609.4 5,420.2 4,779.3 6,291.9 5,153.2 3,696.4 4,094.7	Claims per 100 Miner Years	0.026818
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average Federal  YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average Federal	REPORTED	0 1 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 1 1 40.0%)	DENIED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 0.2115 0.3587 0.5588 1.4840 IBNR 0.0000 0.0000 0.0000 0.1392 0.4103 1.4803 2.0293 2.1708 3.9197 6.8115	PENDING 0.0000 0.0000 0.0000 0.0163 0.0524 0.1187 0.1676 1.2115 0.3588 2.4840  BBNR + PENDING 0.0000 0.0000 0.0000 1.1392 2.4103 1.4803 3.0293 3.1708 3.1708 3.1708	AWARD RATIO 0.000000 0.000000 0.000000 0.015827 0.050880 0.115280 0.162740 1.176337 0.348298 2.411964  0.971 AWARD RATIO 0.000000 0.000000 0.000000 0.000000 1.106163 2.340401 1.437352 2.941470 3.078798 3.865980 7.584947	48,548,532 55,531,499 67,989,438 68,749,931 67,035,206 68,310,739 55,838,525 641,946,490 Payroll 229,462,394 269,231,509 24,841,755 326,146,817 300,963,743 350,172,362 254,559,392 289,193,784 305,128,645	ULTIMATE AWARDED (0.00000) 1.000000 1.000000 0.015827 0.058880 1.115258 1.162740 1.176367 1.348298 0.542595 6.411964    EXPECTED ULTIMATE AWARDED (0.000000 1.0000000 1.000000 1.000000 1.000000 1.000000 1.000000 1.000000 1.000000 1.000000 1.000000 1.000000 1.000000 1.000000 1.000000 1.000000 1.000000 1.000000 1.000000 1.000000 1.0000000 1.0000000 1.0000000 1.00000000	Average Weekly Wage  836 845 858 888 917 932 951 1,025  Statewide Average Weekly Wage 836 845 845 858 888 917 932 951 978	<u>Factor</u>	Miner Years 910.8 1,006.9 1,195.2 1,176.0 1,105.0 1,239.6 1,093.7 890.4 955.9 10,630.2 Estimated Miner Years 4,123.3 4,723.9 5,609.4 5,420.2 4,779.3 6,291.9 5,153.2 3,696.4 4,994.7 4,199.1	Claims per 100  Miner Years	

Source: Claim counts - CMCRB OD Database as of 08/06/2019

IBNR: Exhibit VII-C-6, p.4 Payroll- Exhibit X-A

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Run Date: September 18, 2019 - 09:15:49 AM

COAL MINE COMPENSATION RATING BUREAU STATE OCCUPATIONAL DISEASE ANTHRACITE UNDERGROUND (1011)

Claims with File Dates on or before 12-31-2018, Valued as of 4-30-2019

	_												Incre	mental Fred		I IBNR													
Reported Cl Months  12  24  36  48  60  72  84  96  108  120  132  144  156  148  180  192  204  216  228  240	1992 2 2 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3	1993 0 1 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4	1994 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1995 0 0 0 0 0 0 0 0 0 0 0 0 0	1996 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1997 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1998 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1999 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2000 0 1 1 1 1 1 1 1 1 1 1 1 1 1	2001 0 0 0 1 1 1 1 1 1 1 1 1 1 1	2002 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2003 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2004 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Yec 2005 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2006 0 0 0 0 0 0 0 0 0 0 0 0 0	2007 0 0 0 0 0 0 0 0 0 0 0 0	2008 0 0 0 0 0 0 0 0 0	2009 0 0 0 0 0 0 0 0	2010 0 0 0 0 0 0 0 0 0	2011	2012 0 0 0 0 0 0	2013 0 0 1 1 1 1 1	2014 0 0 0 0	2015 0 0 0	2016 0 0 0	2017 0 0	2018 0		
Incremental 12-24 24-36 36-48 48-60 60-72 72-84 84-96 96-108 108-120 120-132 132-144 144-156 156-168 168-180 180-192 192-204 204-216 216-228 228-240	Changes  0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0	0 1 0 0 0	0 0 0 0	0 0 0	0 0	0			
Payroll (\$Millions)  12-24 24-36 36-48 48-60 60-72 72-84 84-96 96-108 108-120 120-132 132-144 144-156 156-168 168-180 180-192 192-204 204-216 216-228 228-240	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000		0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2002 1.38655 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2003 1.35427 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2004 1.34532 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2005 1.41757 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2006 1.44252 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2007 1.66254 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2008 2.13671 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2009 1.33587 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2010 1.29759 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2011 1.25794 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2012 1.02926 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2013 0.38188 0.00000 2.41842 0.00000 0.00000 0.00000	2014 0.25881 0.00000 0.00000 0.00000 0.00000	2015 0.25434 0.00000 0.00000 0.00000	2016 0.16376 0.00000 0.00000	2017 0.25238 0.00000	2018 0.18335	Average : 0.00000	Smoothed 0.20143 0.00000
IBNR Claims Cumulative times Payroll											0.00000	0.00000	0.00000	0.00000	0.00000		0.00000	0.00000	0.00000		0.00000		0.00000	0.00000	0.00000	0.00000	0.20143 0.03693		

Source: Coal Mine Compensation Rating Bureau Database as of 4-30-2019 Payrolls: Exhibit X-A-2 COAL MINE COMPENSATION RATING BUREAU STATE OCCUPATIONAL DISEASE BITUMINOUS UNDERGROUND (1002)

Claims with File Dates on or before 12-31-2018, Valued as of 4-30-2019

													Incre	mental Fred		IBNR													
Reported CI Months  12 24 36 48 60 72 84 96 108 120 132 144 156 168 180 192 204 216 228 240	1992 8 11 14 15 15 15 15 15 15 15 15 15 15	1993 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1994 3 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	1995 0 1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	1996 0 0 0 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1997 1 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	1998 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1	1999 0 0 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2000 0 1 1 1 1 1 9 9 9 9 9 9 9 9 9 9	2001 2 2 2 2 3 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4	2002 1 1 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	2003 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2004 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Yeo 2005 1 3 3 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	2006	2007 0 0 0 0 0 0 0 0 0 0 0	2008 0 0 1 2 2 2 2 2 2 2 2 2 2	2009 0 0 0 0 0 0 0 0	2010 0 0 0 0 0 0 0 0 0	2011 0 1 1 2 2 2 2 2 2 2 2	2012 0 3 3 3 4 4 4	2013 2 3 3 3 3 6	2014 0 1 2 4 6	2015 0 1 1 3	2016 0 2 3 3	2017 0 0	2018		
Incremental 12-24 24-36 36-48 48-60 60-72 72-84 84-96 96-108 108-120 120-132 132-144 144-156 156-168 168-180 180-192 192-204 204-216 216-228 228-240	0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 8 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 1 0 0 0 0 0 0 0	0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 1 1 1 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	1 0 1 0 0 0	3 0 0 1 1 0 0	1 0 0 0 3	1 1 2 2	1 0 2	2 1	0			
Payroll (\$Millions)  12-24 24-36 36-48 48-60 60-72 72-84 48-96 96-108 108-120 120-132 132-144 144-156 156-168 168-180 180-192 192-204 204-216 216-228 228-240		0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000		0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000		2001 48.52263 0.00000 0.00000 0.02061 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2002 49.25035 0.02030 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000		2004 65.49767 0.00000 0.01527 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000		2006 70.46594 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2007 79.90427 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2008 101.35398 0.00000 0.00000 0.00987 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000		2010 125.39358 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2011 148.48571 0.00673 0.00000 0.00673 0.00000 0.00000 0.00000 0.00000	2012 153.61891 0.01953 0.00000 0.00000 0.00651 0.00000 0.00000	2013 149.74709 2 0.00668 0.00000 0.00000 0.00000 0.02003	2014 271.23071 0.00369 0.00369 0.00737 0.00737		2016 148.55641 0.01346 0.00673	2017 172.80084 0.00000		Average 1 0.00438 0.00038 0.00080 0.00373 0.00263 0.01295 0.00000	0.01295 0.00638 0.00373 0.00373 0.00339 0.00263 0.00159 0.00000
IBNR Claims Cumulative times Payrol	Factor										0.00000		0.00000		0.00000		0.00000		0.00000 0.00000		0.00080 0.12290		0.00502 1.36158	0.00841 1.82038	0.01214 1.80347	0.01852 3.20027	0.03147 5.65515		

Source: Coal Mine Compensation Rating Bureau Database as of 4-30-2019 Payrolls: Exhibit X-A-2 COAL MINE COMPENSATION RATING BUREAU
STATE OCCUPATIONAL DISEASE
ANTHRACITE SURFACE (1016)

Claims with File Dates on or before 12-31-2018, Valued as of 4-30-2019

			Ingramental Fraguency and IRNR	Claims with File Dates on or before 12-31-2018, Valued as of 4-30-2019
12 2 1 1 1 2 2 6 36 5 4 6 48 60 7 7 8 8 96 7 7 8	1995 1996 1997 1998 1998 1 0 2 1 4 1 3 1 7 1 3 1 7 2 3 1 7 2 3 1 7 2 3 1 7 3 3 1 7 3 3 1	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1     1     1     0     1     1     0       2     1     1     0     2     1     0       2     1     1     0     2     1     0       2     1     1     0     3     1     0       2     1     1     0     3     1     0       2     1     1     0     3     1     0       2     1     1     0     3     1     0       2     1     1     0     3     1     0	0 1 0 0 0 0 1 0 0 0 1 0 0 0 0 1 0 0 1 0 1 0 0 1 0 1 0 1 0 0 0 1 0 1 0 0 1 0 1 0 1 0 1
108 7 7 8 120 7 7 8 132 7 7 8 1344 7 7 8 156 7 7 8 168 7 7 8 180 7 7 8 192 7 7 8 204 7 7 8 216 7 7 8 228 7 7 8	7 3 3 1 1 7 3 3 1 1 7 3 3 3 1 7 3 3 3 1 7 3 3 3 1 7 3 3 3 1 7 3 3 3 1 7 3 3 3 1 7 3 3 3 1 7 3 3 3 1 7 3 3 3 1 7 3 3 3 1 7 3 3 3 1 7 3 3 3 1 7 3 3 3 1 7 3 3 3 1 7 7 3 3 3 3	1 3 1 2 2 1 3 1 2 2 1 3 1 2 2 1 3 1 2 2 1 3 1 2 2 1 3 1 2 2 1 3 1 2 2 1 3 1 2 2 1 3 1 2 2 1 3 1 2 2 1 3 1 2 2 1 3 1 2 2 1 3 1 2 2 1 3 1 2 2 1 3 1 3 1	2 1 1 0 3 1 0 2 1 1 0 3 1 2 1 1 0 3 2 2 1 1 0 3 2 2 1 1 0 2 2 1 1 2	
Incremental Changes  12-24 24-36 36-48 48-60 60-72 72-84 84-96 96-108 108-120 120-132 132-144 144-156 0 0 0 168-180 0 0 0 180-192 0 192-204 0 0 0 204-216 0 0 0 228-240 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			
	0000 0,0000 0,0000 0,0000 0,0000 0,0000 0,0000 0,0000 0,0000 0,00000 0	1.00000	1 12.35973 12.14091 11.94638 14.55558 16.95431 16.44546 1  0.00000 0.00000 0.00000 0.06870 0.00000 0.00000  0.00000 0.00000 0.00000 0.00000 0.00000 0.00000  0 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000  0 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000  0 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000  0 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000  0 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000  0 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000  0 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000  0 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000  0 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000  0 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000  0 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000  0 0.00000 0.00000 0.00000 0.00000 0.00000  0 0.00000 0.00000 0.00000 0.00000 0.00000  0 0.00000 0.00000 0.00000 0.00000 0.00000	14.29529   21.03460   26.29591   22.44982   20.46608   24.21878   20.87361   21.16707   19.67753
Cumulative Factor times Payroll		0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	00000.0 00000.0 00000.0 00000.0 00000.0 00000.0 0 00000.0 00000.0 00000.0 00000.0 00000.0 00000.0	

Source: Coal Mine Compensation Rating Bureau Database as of 4-30-2019 Payrolls: Exhibit X-A-2 COAL MINE COMPENSATION RATING BUREAU STATE OCCUPATIONAL DISEASE BITUMINOUS SURFACE (1013)

Claims with File Dates on or before 12-31-2018, Valued as of 4-30-2019

													Incre	mental Fred		d IBNR													
Reported CI Months  12 24 36 48 60 72 84 96 108 120 132 144 156 168 180 192 204 216 228 240	1992 1 3 4 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	1993 1 2 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3	1994 1 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	1995 1 1 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	1996 0 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	1997 0 2 2 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	1998 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1	1999 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2000 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2001 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2002 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2003 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2004 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Yec 2005 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2006 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2007 0 0 0 0 0 0 0 0 0 0 0 0	2008 0 0 0 0 0 0 0 0 0	2009	2010 0 0 0 0 0 0 0 0 0	2011 0 0 1 1 1 1 1	2012 0 0 1 2 2 2	2013 0 0 0 0 0	2014 0 0 0 1 1	2015 0 1 2 2	2016 0 0 0	2017 0 0	2018 0		
Incremental 12-24 24-36 36-48 48-60 60-72 72-84 84-96 96-108 108-120 120-132 132-144 144-156 156-168 168-180 180-192 192-204 204-216 216-228 228-240	Changes  0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 1 0 0 0 0 0 0 0 0 0	0 0 1 1 0 0	0 0 0 0	0 0 1 0	1 1 0	0 0	0			
Payroll (\$Millions)  12-24 24-36 36-48 48-60 60-72 72-84 84-96 96-108 108-120 120-132 132-144 144-156 156-168 168-180 180-192 192-204 204-216 216-228 228-240	0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	1998 63.65156  0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000		2001 58.15133 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2002 53.50209 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2003 47.87374 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2004 56.21730 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2005 64.87156 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2006 63.00898 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2007 63.29577 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2008 73.05448 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000		2010 72.71156 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2011 86.07406 0.00000 0.01162 0.00000 0.00000 0.00000 0.00000 0.00000	2012 76.45281 0.00000 0.01308 0.01308 0.00000 0.00000	2013 61.34975 0.00000 0.00000 0.00000 0.00000 0.00000	2014 54.05073 0.00000 0.00000 0.01850 0.00000		2016 29.12709 0.00000 0.00000	2017 33.14078 0.00000		Average 0.00188 0.00217 0.00243 0.00100 0.00000	Smoothed 0.00277 0.00243 0.00188 0.00101 0.00000
IBNR Claims Cumulative times Payrol										0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000		0.00000 0.00000	0.00000 0.00000	0.00000 0.00000		0.00000 0.00000	0.00101 0.04134	0.00289 0.08418	0.00532 0.17631	0.00809 0.28531		

Source: Coal Mine Compensation Rating Bureau Database as of 4-30-2019 Payrolls: Exhibit X-A-2 COAL MINE COMPENSATION RATING BUREAU STATE OCCUPATIONAL DISEASE OTHER CLASSIFICATIONS - STATE

																								Claims wit	n File Dates	on or befor	e 12-31-201	8, Valued as	of 4-30-2019
Reported C Months 12 24 36 48 60 72 84 96 108 120 132 144 156 168	aims 1992 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1993 0 1 1 1 1 1 1 1 1 1 1 1 1 1	1994 0 0 0 0 0 0 0 0 0 0 0	1995 0 0 0 0 0 0 0 0 0 0 0	1996 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1997 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2	1998 0 0 0 0 0 0 0 0 0 0	1999 0 0 0 0 1 1 1 1 1 1	2000 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2001 0 0 0 0 0 0 0 0 0	2002 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2003 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Incree 2004 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	remental Free Yes 2005 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		2007 0 1 1 1 1 1 1 1 1 1 1 1 1 1	2008 0 0 0 0 0 0 0 0 0	2009 0 0 0 0 0 0 0 0	2010 1 1 1 1 1 1 1 1 1 1	2011 0 0 0 0 0 0 0	2012 0 0 0 0 0 0	2013 0 0 0 0 0	2014 0 0 0 0 1 1	2015 0 0 1 1	2016 0 0 1	on or befor 2017 1 1	2018 0	8, Valued as	of 4-30-2019
180 192 204 216 228 240	1 1 1 1 1	1 1 1 1 1	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	2 2 2 2 2 2		1 1 1 1 1	1 1 1 1	0 0 0 0	1 1 1	1 1	1																
Incremento 12-24 24-36 36-48 48-60 607-72 72-84 84-96 96-108 108-120 120-132 132-144 144-156 156-168 168-180 180-192 192-204 204-216 216-228 228-240	-	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 1 0	0 1 0	0 1	0			
Payroll (\$Millions)  12-24 24-36 36-48 48-60 60-72 72-84 84-96 96-108 108-120 120-132 132-144 144-156 156-168 168-180 180-192 192-204 204-216 216-228 228-240	0.00000 0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000		0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2000 29.53686 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2001 32.92543 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2002 36.81203 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2003 41.30010 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2004 49.30786 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000		2006 53.54405 0.01868 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2007 59.39238 0.01684 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2008 56.31762 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	48.54853 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2010 55:53150 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2012 68.74993 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2013 67.03521 0.00000 0.00000 0.00000 0.00000 0.00000	2014 77.80825 0.00000 0.00000 0.01285 0.00000	2015 68.31074 0.00000 0.01464 0.00000	2016 55.83853 0.00000 0.01791	2017 61.83271 0.00000	2018 70.30166	Average 0.00273 0.00250 0.00273 0.00250 0.00099 0.00000	Smoothed 0.00273 0.00250 0.00099 0.00000
Cumulative times Payro	Factor								0.00000		0.00000		0.00000	0.00000	0.00000		0.00000		0.00000	0.00000 0.00000	0.00000		0.00000	0.00000	0.00099 0.05528	0.00349 0.21580	0.00622 0.43728		

Source: Coal Mine Compensation Rating Bureau Database as of 4-30-2019 Payrolls: Exhibit X-A-2

# COAL MINE COMPENSATION RATING BUREAU STATE OCCUPATIONAL DISEASE ALL CLASSIFICATIONS

Claims with File Dates on or before 12-31-2018, Valued as of 4-30-2019

	Incremental Frequency and IBNR	Claims with File Dates on or before 12-31-2018, Valued as of 4-30-2019
Nonths   1992   1993   1994   1995   1996   1997   1998   1999   1998   1999   1998   1999   1998   1999   1998   1999   1998   1999   1998   1999   1998   1999   1998   1999   1998   1999   1998	Year  2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 20 0 3 3 3 3 5 3 5 1 3 1 0 1 2 5 3 3 5 5 3 5 1 3 1 0 1 4 6 4 5 5 5 4 5 1 4 2 0 1 5 6 5 6 5 4 5 1 4 3 0 1 5 14 5 6 5 4 6 1 4 3 0 1 5 14 6 6 5 4 6 1 4 3 0 1 5 14 6 6 5 4 6 1 4 3 0 1 14 6 6 5 5 4 6 1 4 3 0 1 14 6 6 5 5 4 6 1 4 3 0 1 14 6 6 5 5 4 6 1 4 3 0 1 14 6 6 5 5 4 6 1 4 3 0 1 14 6 6 5 5 4 6 1 4 3 0 1 14 6 6 5 5 4 6 1 4 3 0 1 14 6 6 5 5 4 6 1 4 3 0 1 14 6 6 5 5 4 6 1 4 3 0 1 14 6 6 5 5 4 6 1 4 3 0 1 14 6 6 5 5 4 6 1 4 3 0 1 14 6 6 5 5 4 6 1 4 3 0 1 14 6 6 5 5 4 6 1 4 3 0 14 6 6 5 5 4 6 1 4 3 0 14 6 6 5 5 4 6 1 4 3 0 14 6 6 5 5 4 6 1 4 3 1 14 6 6 6 5 4 6 1 4 3 1 14 6 6 6 5 4 6 1 4 3 1 14 6 6 6 5 4 6 1 4 3 1 14 6 6 6 5 4 6 1 4 3 1 14 6 6 6 5 4 6 1 4 3 14 6 6 6 5 4 6 1 14 6 6 6 5 4 6 1 14 6 6 6 5 4 6 1 14 6 6 6 5 1 14 6 6 6 5 1 14 6 6 6 5 1 14 6 6 6 5 1 14 6 6 6 5 1 14 6 6 6 5 1 14 6 6 6 5 1 14 6 6 6 5 1 14 6 6 6 5 1 14 6 6 6 5 1 14 6 6 6 5 1 14 6 6 6 5 1 14 6 6 6 5 1 14 6 6 6 5 1	012 2013 2014 2015 2016 2017 2018 0 2 0 0 1 1 1 1 3 3 1 2 3 1 3 5 2 4 5 4 5 6 6 6 6 5 8 6 8
Incremental Changes	1 2 1 2 0 0 0 1 1 0 1 1 0 1 1 1 0 0 0 1 1 1 1	3 1 1 2 2 0 0 2 1 2 2 1 0 4 2 2 0 2 0 3 0
12-24 24-36 36-48 48-60 60-72 72-84 84-96 96-108 108-120 120-132 132-144 156 0.00000	145.17101         155.17671         153.20228         156.90982         184.72788         202.43064         200.40787         218.81054         249.81710         229.46239         269.23152         324.84175         326.1467           145.17101         155.17671         153.20228         156.90982         184.72788         202.43064         200.40787         218.81054         249.81710         229.46239         269.23152         324.84175         326.1467           145.17101         145.17101         145.2028         140.00000         0.0	920         0.00332         0.00236         0.00571         0.00786         0.00000         0.00427         0.00427           000         0.00465         0.00236         0.00571         0.00786         0.00000         0.00197         0.00424           307         0.00000         0.00944         0.00571         0.00271         0.00271         0.00271           413         0.00000         0.00472         0.00164         0.00164         0.00179           000         0.00974         0.00164         0.00164         0.00164         0.00164
IBNR Claims Cumulative Factor times Payroll	0.00000 0.000000	

Source: Counts and Payrolls: Sum of Exhibits VII-C-1 thru VII-C-5

# COAL MINE COMPENSATION RATING BUREAU STATE OCCUPATIONAL DISEASE ALL CLASSIFICATIONS

# **IBNR By Class**

# **CLASSIFICATION**

			A Lla : L a	Dili.a a	A Ha a. a : 4 a	Dituraire
A. IBNR Factor	Coko	Augor			Anthracite Prep Plant	Prep Plant
Year	<u>Coke</u> 1017	<u>Auger</u> 1019	<u>Co-Gen</u> 1022	<u>Co-Gen</u> 1024	1026	1028
<u>1ear</u> 2009	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
2007	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
2010	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
2012	0.00050	0.00050	0.00050	0.00050	0.00050	0.00050
2013	0.00030	0.00036	0.00030	0.00030	0.00030	0.00030
2014	0.00103	0.00103	0.00103	0.00103	0.00103	0.00103
2015	0.00527	0.00527	0.00527	0.00527	0.00527	0.00527
2016	0.00320	0.00328	0.00320	0.00320	0.00320	0.00320
2017	0.00777	0.00777	0.00777	0.00777	0.00777	0.00777
2018	0.01221	0.01221	0.01221	0.01221	0.01221	0.01221
2010	0.01040	0.01040	0.01040	0.01040	0.01040	0.01040
B. Adjustment Factor	0.40000	0.40000	0.40000	0.40000	1.00000	0.40000
•						
C. Payroll Per \$1M						
2009	5.17355	0.92616	8.00464	7.86641	6.74975	19.82801
2010	5.43566	0.80670	8.48123	8.73270	5.76209	26.31313
2011	3.59909	1.17626	11.72004	9.10241	7.23658	35.15507
2012	5.73811	0.80821	10.27300	9.04775	8.67114	34.21173
2013	4.79191	1.02540	8.34265	10.35588	8.26567	34.25370
2014	4.46440	0.80698	9.06088	11.72118	8.23477	43.52004
2015	4.34038	0.58262	10.46909	11.74821	7.60627	33.56418
2016	4.43507	0.37250	8.99460	11.32755	7.01893	23.68988
2017	4.56611	0.44901	8.81970	11.43506	7.74615	28.81668
2018	4.45680	0.56013	11.59149	11.99661	9.64309	32.05355
D. IBNR						
2009	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2011	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2012	0.0001	0.0002	0.0021	0.0008	0.0000	0.0068
2012	0.0011	0.0002	0.0021	0.0018	0.0043	0.0000
2013	0.0052	0.0007	0.0033	0.0066		0.0226
2014	0.0037	0.0011	0.0117	0.0134	0.0271	0.0373
2016	0.0071	0.0012	0.0220	0.0247	0.0400	0.0755
2017	0.0141	0.0012	0.0287	0.0558	0.0337	0.0733
2017	0.0223	0.0022	0.0431	0.0338	0.0748	0.1407
2018	0.0274	0.003/	0.0764	0.0/91	0.1369	0.2113

Source: IBNR Factor - Exhibit VII-C-6

Adjustment Factor - Judgement

Payrolls: Exhibit X-A-2 IBNR = A times B times C

# COAL MINE COMPENSATION RATING BUREAU STATE OCCUPATIONAL DISEASE ALL CLASSIFICATIONS

# **IBNR By Class**

# CLASSIFICATION

			٠. ٠. ٠. ٠. ٠. ٠. ١	Dili	٠ المار مار المار الم	Diti.a a
A. IBNR Factor	Coko	Augor			Anthracite	
	<u>Coke</u> 1017	<u>Auger</u> 1019	<u>Co-Gen</u> 1022	<u>Co-Gen</u> 1024	Prep Plant 1026	Prep Plant 1028
<u>Year</u> 1999	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
2000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
2001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
2002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
2003	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
2004	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
2005	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
2006	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
2007	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
2008	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
2000	0.00000	0.00000	0.00000	0.00000	0.00000	0.0000
B. Adjustment Factor	0.40000	0.40000	0.40000	0.40000	1.00000	0.40000
•						
C. Payroll Per \$1M						
1999	12.29348	1.13689	3.60431	1.49428	1.23112	10.69178
2000	12.09257	1.20588	4.47346	1.87072	1.31947	8.57476
2001	10.37583	1.42913	5.23447	2.12133	3.60965	10.15503
2002	10.48501	1.15084	6.35854	2.38612	3.78169	12.64983
2003	11.53408	1.10222	7.13766	3.05252	3.72130	14.75232
2004	12.04913	1.05880	7.35151	6.37448	4.40665	18.06729
2005	12.86098	1.02654	7.85529	8.52475	5.17007	17.69036
2006	12.73739	1.06683	8.40539	9.39758	4.88588	17.05097
2007	13.66993	1.12116	9.16045	10.78921	5.75644	18.89519
2008	9.76115	2.48856	7.95834	8.46856	6.39077	21.25026
D. IBNR						
D. IDINK	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2006	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2007	0.0000	0.0000	0.0000	0.0000		0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Source: IBNR Factor - Exhibit VII-C-6 Adjustment Factor - Judgement

> Payrolls: Exhibit X-A-2 IBNR = A times B times C

File: K:\OneDrive\Clients\Coal Mine\2019 Rate Filing\XL\[2019-07-C.xlsm]VII-C-8 Run Date: September 17, 2019 - 02:38:39 PM

PAB

#### Exhibit VII-E-a Page 1 <u>Underground Antrhacite</u>

# State O.D. Severity- Before Act 57

		rded- ent Basis	Commute Compro As Se	ed and mised-	Total Awarded- Permanent plus Commuted/Comp.	Pending, o	on	iaiiiis	Total Claims	
		1) Amount	(2 Count		(3) = (1) + (2) Count Amount	(4) Count	Amount	Count	(5) Amount	
a. Numbers and Ar	nounte									
(i) List	1	647,784	-	-		-	-			
	1	859,695 1,776,682	-	-		-	-			
	1	500,028	-	-		-	-			
	1	607,877	-	-		-	-			
	- 1	1,458,940	1	176,947		-	-			
	-	=	1	597,938		=	-			
	-	-	1	459,380		-				
	-	-	-	-		-	-			
	-	-	-	-		-	-			
	-	-	-	-		-	-			
	-	=	•	-		-	•			
	-	-	-	-		-	-			
	-	-	•	-		-	-			
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	-	-	-	-		-	-			
	-	-	-	-		-	-			
	-	-	-	-		-	-			
(i) Total	# 6	\$5,851,006	# 3	\$1,234,265	#9 \$7,085,271	# 0	\$0 \$0	#9	\$7,085,271	
b. Percentage of A	warded and Co	\$975,168	mised within Tot	\$411,422	\$787,252		φU		\$787,252	
(i) Number	#6	minated compro	# 3	ai / wai aca	#9					
(ii) Percentage	66.6667%		33.3333%		100%					
c. Difference Between	een Average A		nt Claim and Av		ed/Compromised Claim					
(i) Average		\$975,168		\$411,422	(0500 740)					
(ii) Difference (Col.			- d/Ci /	November of Miles	(\$563,746)					
d. Pending claims : (i) Awarded Mix	66.6667%	ded and Commute	33.3333%	Awarded IVIIX						
(ii) Total	# 0.0000		# 0.0000			# 0				
e. Pending Averag		Commuted and		ss Awarded Di	fference					-
(i) Pending Ave.		\$0		\$0						
(ii) C/C Difference	_	\$0	_	(\$563,746)	P 24 14 P W					
(iii) (e-i) + (e-ii)		\$0 \$0		\$0 \$0	limited to zero: negative offse	t is impossible				
(iv) Total (d-ii) x (e-iii)		φU		φυ						
(v) Total of (e-iv)							\$0			
f. Calculation of Im										
		Awarded			Pending				otal	
() B	Count	Amount	Average		Count Amount	Average		Count	Amount	Average
<ul><li>(i) Permanent</li><li>(ii) Comm./Comp.</li></ul>	#6 #3	\$5,851,006 \$1,234,265	\$975,168 \$411,422		# 0.0000 \$0 # 0.0000 \$0	\$0 \$0		# 6.0000 # 3.0000	\$5,851,006 \$1,234,265	\$975,168 \$411,422
(ii) Comm./Comp. (iii) Total	# 9	\$1,234,265 \$7,085,271	\$787,252		# 0.0000 \$0	\$0 \$0		# 9.0000	\$1,234,265 \$7,085,271	\$411,422 \$787,252
(iv) Average Sever			,		. +-	**				\$787,252
(v) Impact	•									\$0

# State O.D. Severity- Before Act 57

	Δωα	rded-		ited and omised-	Total Av Perman		Pendir	ng on			
	Perman	ent Basis	As S	ettled	Commute	ed/Comp.	Permane	nt Basis		Total Claims	
	( Count	1) Amount	( Count	2) Amount	(3) = (1 Count	1) + (2) Amount	(4 Count	Amount	Count	(5) Amount	
a. Numbers and An	nounts										
(i) List	1	899,611	-	-			-	-			
	-	-	1	144,876 213,043			-	-			
	-	-	1	457,424			-	-			
	-	-	1	89,601 187,942			-	-			
	-	-	1	357,414			-	-			
	1	926,598	- 1	150,546			-	-			
	1	1,173,206	-	-			-	-			
	. 1 -	1,647,885	1	507,048			-	-			
	- ,	-	1	137,135			-	-			
	. 1 -	1,246,067	1	194,736				-			
	- ,	-	1	44,440			-	-			
	- 1	1,573,348	1	95,836			-	-			
	-	-	1	173,818			-	-			
	-	-	1	44,241 169,598			-	-			
	-	-	1	662,859			-	-			
	-	-	1	253,015 136,241			-	-			
	-	-	1	197,718			-	-			
	-	-	1	120,166 129,184			-	-			
	-	-	1	130,702			-	-			
	-	-	1	126,630 135,618			-	-			
	-	-	1	133,436			-	-			
	-	-	1	159,811 133,807			-	-			
	-	-	1	265,569			-	-			
	-	-	1	152,054			-	-			
	-	-	1	226,624 573,805			-	-			
	-	-	1	266,159			-	-			
	-	-	1	128,001 140,773			-	-			
	-	-	1	111,154			-	-			
	-	-	1 1	103,854 250,449			-	-			
	-	-	1	41,733			-	-			
	-	-	1	89,372 162,854			-	-			
	-	-	-	-			1	1,176,636			
	-	-	1 1	310,157 187,908							
	-	-	-	-			1	772,149			
	- 1	1,140,063	1	246,003			-	-			
	- '	-	1	132,740			-	-			
	-	-	1	85,437 89,677			-	-			
	-	-	1	36,290			-	-			
	-	-	1	86,760			- 1	1,109,831			
	-	-	-	=			1	1,232,214			
	-	-	- 1	220 040			1	1,243,575			
	-	-	'	228,049			-	-			
(i) Total	#7	\$8,606,778	# 49	\$9,202,304	# 56 \$	17,809,082	# 5	\$5,534,407	# 61	\$23,343,489	
(ii) Average b. Percentage of Av		\$1,229,540	and and solution To	\$187,802		\$318,019		\$1,106,881		\$382,680	
(i) Number	# 7	orninatea/Compre	# 49	otal Awarded	# 56						
(ii) Percentage	12.5000%		87.5000%		100%						
c. Difference Between	en Average A		ent Claim and A		d/Compromise	d Claim					
(i) Average (ii) Difference (Col.	2 minus Col. 1	\$1,229,540		\$187,802		(\$1,041,738)					
d. Pending claims			ted/Comp using	Awarded Mix		(\$1,041,700)					
(i) Awarded Mix	12.5000%		87.5000%								
(ii) Total	# 0.6250		# 4.3750				# 5				
e. Pending Average (i) Pending Ave.	e from Above:	\$1,106,881	Compromised I	ess Awarded Diff \$1,106,881	<u>erence</u>						
(ii) C/C Difference		\$0		(\$1,041,738)							
(iii) (e-i) + (e-ii)	-	\$1,106,881	•	\$65,144							
(iv) Total		\$691,801		\$285,004							
(d-ii) x (e-iii)								<b>6070 00</b> 5			
(v) Total of (e-iv)  f. Calculation of Im	pact of Adjusti	ment						\$976,805			
		Awarded			F	ending			T	otal	
	Count	Amount	Average		Count	Amount	Average		Count	Amount	Average
<ul><li>(i) Permanent</li><li>(ii) Comm./Comp.</li></ul>	# 7 # 49	\$8,606,778 \$9,202,304	\$1,229,540 \$187,802		# 0.6250 # 4.3750	\$691,801 \$285,004	\$1,106,881 \$65,144		# 7.6250 # 53.3750	\$9,298,579 \$9,487,307	\$1,219,486 \$177,748
(iii) Total	# 49 # 56	\$17,809,082	\$318,019		# 5.0000	\$976,805	\$195,361		# 61.0000	\$18,785,886	\$307,965
(iv) Average Severi						. ,					\$382,680
(v) Impact											(\$74,715)
Source:	Exhibit IX-A										

# State O.D. Severity- Before Act 57

		arded-	Commu	ted and omised-	Total Awarded- Permanent plus	Pending, o	on			
		(1) Amount	As S (2 Count	ettled 2) Amount	Commuted/Comp. (3) = (1) + (2) Count Amount	Permanent B (4) Count	Amount	Count	Total Claims (5) Amount	
		Amount	Count	Amount	Count Anount	Count	Amount	Count	Amount	
<ul><li>a. Numbers and A</li><li>(i) List</li></ul>	mounts 1	861,713	-	-		-	-			
	- 1	928,484	1	39,141 -		-	-			
	1	618,479	-	-		-	-			
	1	302,583	1	58,839		-	-			
	1	736,359		-		-	-			
	_ 1 	555,762	1	558,244		-	-			
	1	820,687	-	-		-	-			
	1	1,027,717 813,889	-	-		-	-			
	1	672,264	-	-		-	-			
	_ 1 	81,346	1	388,433			-			
	1	766,037	-	-		-	-			
	1	621,053 940,745	-	-			-			
	- 4	-	1	592,891		-	-			
	1	693,618 481,051	-	-			-			
	1	525,931	-	-		-	-			
	1	649,365 1,376,176	-	-		-	-			
	1	505,064	-	-		-	-			
	- '	773,431	1	35,106		-	-			
	1	1,055,134	- 1	240,677		-	-			
	1	591,983	- '	240,077		-	-			
	1	708,411	- 1	132,049		-	-			
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(i) Total	# 24	\$17,107,283	# 13	\$2,646,717	#37 \$19,754,001	#0	\$0	# 37	\$19,754,001	
(ii) Average		\$712,803		\$203,594	\$533,892		\$0		\$533,892	
b. Percentage of A (i) Number	warded and C # 24	ornmuted/Compro	mised within To # 13	ual Awarded	# 37					
(ii) Percentage	64.8649%		35.1351%		100%					
	een Average A		nt Claim and A		ed/Compromised Claim					
(i) Average	0	\$712,803		\$203,594	(\$E00.240)					
d. Pending claims			ed/Comp using	Awarded Mix	(\$509,210)					
(i) Awarded Mix	64.8649%		35.1351%							
(ii) Total	# 0.0000		# 0.0000			# 0				
e. Pending Averag	e from Above:	Commuted and \$0	Compromised le	ess Awarded Dit \$0	<u>ference</u>					
(i) Pending Ave. (ii) C/C Difference		\$0 \$0		(\$509,210)						
(iii) (e-i) + (e-ii)	-	\$0	-	\$0	limited to zero: negative offset	is impossible				
(iv) Total		\$0		\$0						
(d-ii) x (e-iii)							<b>ድ</b> ስ			
(v) Total of (e-iv)  f. Calculation of In	npact of Adiust	ment					\$0			
		Awarded			Pending			Т	otal	
	Count	Amount	Average		Count Amount	Average		Count	Amount	Average
(i) Permanent	# 24	\$17,107,283	\$712,803		# 0.0000 \$0 # 0.0000 \$0	\$0 \$0		# 24.0000	\$17,107,283 \$2,646,717	\$712,803
(ii) Comm./Comp. (iii) Total	# 13 # 37	\$2,646,717 \$19,754,001	\$203,594 \$533,892		# 0.0000 \$0 # 0.0000 \$0	\$0 \$0		# 13.0000 # 37.0000	\$2,646,717 \$19,754,001	\$203,594 \$533,892
(iv) Average Sever			,,			**			,,	\$533,892
(v) Impact										\$0

#### Exhibit VII-E-a Page 4 <u>Surface Bituminous</u>

# State O.D. Severity- Before Act 57

	Awar Permane		Commuted Compromi As Settl	sed-	Total Awarded- Permanent plus Commuted/Comp.	Pending, o Permanent B	on asis		Total Claims	
	(1 Count	) Amount	(2) Count	Amount	(3) = (1) + (2) Count Amount	(4) Count	Amount	Count	(5) Amount	
a. Numbers and An										
(i) List	1	1,375,226	-	-		-	-			
	1 -	1,115,473	- 1	648,277		-	-			
	-	-	1	106,664		-	-			
	1	1,715,664	1 -	381,872		-	-			
	-	-	1	501,132		-	-			
	-	-	1 1	42,931 220,094		-	-			
	-	-	1 1	101,243 360,054		-	-			
	-	-	1	218,227		-	-			
	-	-	1	79,145 145,285		-	-			
	-	-	1	90,940		-	-			
	1	797,030	- 1	139,598		-	-			
	-	-	1	114,316		-	-			
	-	-	1 1	55,250		-	-			
	-	-	1	122,308 319,549		-	-			
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(i) Total	# 4	\$5,003,393	# 17 \$	3,646,884	#21 \$8,650,277	# 0	\$0	# 21	\$8,650,277	
(ii) Average b. Percentage of Av	wordod == 10	\$1,250,848	amin ad within Total	\$214,523	\$411,918		\$0		\$411,918	
(i) Number	# 4	nmuted/Compre	# 17	Awarded	# 21					
(ii) Percentage	19.0476%		80.9524%		100%					
	en Average Av		ent Claim and Aver		ed/Compromised Claim					
(i) Average	2 minus Coll 11	\$1,250,848		\$214,523	/¢4 ()36 (30e)					
(ii) Difference (Col.			ted/Comp using Av	arded Mix	(\$1,036,326)					
(i) Awarded Mix	19.0476%		80.9524%	1180						
(ii) Total	# 0.0000		# 0.0000			# 0				
e. Pending Average	e from Above:	Commuted and \$0	Compromised less		<u>ference</u>					
(i) Pending Ave. (ii) C/C Difference		\$0 \$0	(9	\$0 (1,036,326)						
(iii) (e-i) + (e-ii)	_	\$0		\$0	limited to zero: negative offset	is impossible				
(iv) Total		\$0		\$0	·	•				
(d-ii) x (e-iii)							<b>60</b>			
(v) Total of (e-iv) f. Calculation of Im	pact of Adiustr	nent					\$0			
GalgulatiOH UI IIII		warded			Pending			To	otal	
•	Count	Amount	Average		Count Amount	Average	-	Count	Amount	Average
(i) Permanent	#4	\$5,003,393	\$1,250,848		# 0.0000 \$0	\$0		# 4.0000	\$5,003,393	\$1,250,848
(ii) Comm./Comp.	# 17 # 21	\$3,646,884 \$8,650,277	\$214,523 \$411,918		# 0.0000 \$0 # 0.0000 \$0	\$0 \$0		# 17.0000 # 21.0000	\$3,646,884 \$8,650,277	\$214,523 \$411,918
(iii) Total (iv) Average Severi			0ا ۳,۱۱۴ ب		# U.UUUU	φυ		π ∠ 1.0000	ψυ,υυυ,Δ11	\$411,918 \$411,918
(v) Impact	, najuo									\$0
										`

#### Exhibit VII-E-a Page 5 Other Classes

# State O.D. Severity- Before Act 57

	Awa		Commut Compro	mised-	Total Av Perman	ent plus	Pendin				
-	Permane (*	ent Basis 1)	As Se		(3) = (1		Permaner (4)			Total Claims (5)	
	Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount	
a. Numbers and An	nounts										
(i) List	1	1,513,844	-				-	-			
	-	-	1	274,609 130,047			-	-			
	-	=	i	150,401			-	-			
	1	539,649	- 4	- 00.400			-	-			
	-	-	1	80,468 75,048			-	-			
			1	89,471			-	-			
	1	457,142	1	198,264			-	-			
	-	-	i	137,260			-	-			
	-	-	1	147,300			-	-			
	-	-	1	69,237			1	968,884			
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(i) Total	# 3	\$2,510,635	# 10	\$1,352,105	# 13	\$3,862,740	# 1	\$968,884	# 14	\$4,831,623	
(ii) Average		\$836,878		\$135,210		\$297,134		\$968,884		\$345,116	
b. Percentage of Av		mmuted/Compro		tal Awarded							
(i) Number	# 3		# 10		# 13						
(ii) Percentage c. Difference Between	23.0769%	andad Damasaa	76.9231%		100%	d Claim					
(i) Average	en Average A	\$836,878	ni Ciaim and Av	\$135,210	u/Compromise	u Ciaim					
(ii) Difference (Col.	2 minus Col. 1			ψ100,210		(\$701,668)					
d. Pending claims S			ed/Comp using	Awarded Mix		(, , , , , , , ,					
(i) Awarded Mix	23.0769%		76.9231%								
(ii) Total	# 0.2308		# 0.7692				# 1				
e. Pending Average	e from Above:		Compromised le		erence_						
(i) Pending Ave.		\$968,884 \$0		\$968,884 (\$701,668)							
(ii) C/C Difference (iii) (e-i) + (e-ii)	-	\$968,884	-	\$267,216							
(iv) Total		\$223,589		\$205,551							
(d-ii) x (e-iii)		<del></del>		<del></del>							
(v) Total of (e-iv)								\$429,139			
f. Calculation of Im											
-		Awarded	A			ending	A			otal	Δ.
(i) Permanent	Count #3	Amount \$2,510,635	Average \$836,878		Count # 0.2308	Amount \$223,589	Average \$968,884		Count # 3.2308	Amount \$2,734,224	Average \$846,307
<ul><li>(i) Permanent</li><li>(ii) Comm./Comp.</li></ul>	# 3 # 10	\$2,510,635	\$836,878 \$135,210		# 0.2308 # 0.7692	\$223,589 \$205,551	\$968,884 \$267,216		# 3.2308 # 10.7692	\$2,734,224 \$1,557,655	\$846,307 \$144,639
(iii) Total	# 13	\$3,862,740	\$297,134		# 1.0000	\$429,139	\$429,139		# 14.0000	\$4,291,879	\$306,563
(iv) Average Severi						*	•			•	\$345,116
(v) Impact											(\$38,553)
Source:	Exhibit IX-A										

	Award Permanen		Commuted Compromi As Settl	sed-	Total Aw Permane Commuted	nt plus	Pending, o	on Basis		Total Claims	
_	(1) Count		(2) Count	Amount	(3) = (1) Count		(4) Count	Amount	Count	(5) Amount	
Niverbass and Ass		741104111	Count	, and an	Count	7 1110 4111	Count	741104111	Count	7 anount	
Numbers and Am List	iounis 1	-	-	-			-	-			
	1	309,016	-	-			-	-			
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	1 1	278,359	-	-			-	-			
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otal	#6	\$587,375	# 3	\$0	#9	\$587,375	# 0	\$0	#9	\$587,375	
Average		\$97,896	and and sold to Total	\$0		\$65,264		\$0		\$65,264	
<u>ercentage of Aw</u> lumber	varded and Com #6	rriutea/Compro	mised within Total #3	Awarded	#9						
Percentage	66.6667%		33.3333%		100%						
ifference Between	en Average Awa		ent Claim and Aver		d/Compromised	Claim					
werage	0	\$97,896		\$0		(\$97,896)					
Difference (Col. 2 Pending claims S		d and Commut	ed/Comp using Aw	arded Mix		(\$97,090)					
warded Mix	66.6667%	,	33.3333%								
Number	# 0.0000		# 0.0000				# 0				
	e from Above: C	ommuted and \$0	Compromised less	Awarded Diffe \$0	erence						
Pending Ave. C/C Difference		\$0 \$0		(\$97,896)							
(e-i) + (e-ii)	_	\$0	_	\$0	limited to zero	: negative offse	et is impossible				
(6-1) ' (6-11)		\$0		\$0		-					
								**			
Total l-ii) x (e-iii)								\$0			
Total -ii) x (e-iii) Fotal of (e-iv)	nact of Adiretre	ent							_		
Total -ii) x (e-iii) Fotal of (e-iv)		<u>nt</u> varded			Pe	ending			To	tal	
Total I-ii) x (e-iii) Total of (e-iv)			Average		Count	ending Amount	Average		Count	tal Amount	Av
Total  iii) x (e-iii)  Total of (e-iv)  Calculation of Imp  -  Permanent	Count # 6	Amount \$587,375	\$97,896		Count # 0.0000	Amount \$0	\$0	-	Count # 6.0000	Amount \$587,375	Ave \$97
Total I-ii) x (e-iii) Total of (e-iv) Calculation of Imp	Count	arded Amount			Count	Amount		-	Count	Amount	

	Award	led-	Commute	ed and mised-	Total Aw Permane	arded- ent plus	Pending	j, on	oiaiiiis	T. I. I. Olivino	
•	Permaner (1) Count		As Se (2) Count		(3) = (1 Count		Permanen (4) Count		Count	Total Claims (5) Amount	
- Nombers and Am		Amount	Count	Amount	Count	Amount	Count	Amount	Count	Allbulk	
<ul> <li>a. Numbers and An (i) List</li> </ul>	nounts 1	-	-	-			-	-			
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	-	-	1 1	61,274			-	-			
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	1	330,748	- 1	-			-	-			
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	=	-	1	80,206			-	-			
(i) Total	# 7	\$639,491	# 49	\$618,429	# 56	\$1,257,920	# 5	\$657,322	# 61	\$1,915,242	
b. Percentage of Av	varded and Con	\$91,356	mised within Tot	\$12,621		\$22,463		\$131,464		\$31,397	
(i) Number	#7	ariato ar compres	# 49	ar / War ao a	# 56						
(ii) Percentage c. Difference Between	12.5000%	rardad Darmana	87.5000%	araga Cammuta	100%	l Claim					
(i) Average	en Average Aw	\$91,356	III Ciaiiii and Avi	\$12,621	d/Compromised	Clairi					
(ii) Difference (Col.						(\$78,735)					
d. Pending claims (i) Awarded Mix	12.5000%	ed and Commute	87.5000%	warded MIX							
(ii) Number	# 0.6250		# 4.3750				# 5				
<ul> <li>e. Pending Average</li> <li>(i) Pending Ave.</li> </ul>	e from Above: (	Sommuted and 0 \$131,464	Compromised les	ss Awarded Diffe \$131,464	<u>erence</u>						
(ii) C/C Difference	_	\$0	_	(\$78,735)							
(iii) (e-i) + (e-ii)		\$131,464 \$82,165	_	\$52,730 \$230,692							
(iv) Total (d-ii) x (e-iii)		φυ2,100		φ <b>∠</b> 30,032							
(v) Total of (e-iv)								\$312,857			
f. Calculation of Im		<u>ent</u> varded			Р	ending			To	otal	
	Count	Amount	Average		Count	Amount	Average		Count	Amount	Average
(i) Permanent	# 7 # 40	\$639,491 \$618,420	\$91,356 \$12,621		# 0.6250 # 4.3750	\$82,165 \$230,602	\$131,464 \$52,730		# 7.6250 # 53.3750	\$721,656 \$840,121	\$94,643
(ii) Comm./Comp. (iii) Total	# 49 # 56	\$618,429 \$1,257,920	\$12,621 \$22,463		# 4.3750 # 5.0000	\$230,692 \$312,857	\$52,730 \$62,571		# 53.3750 # 61.0000	\$849,121 \$1,570,777	\$15,909 \$25,750
(iv) Average Severi			•			•	•			•	\$31,397
(v) Impact											(\$5,647)

	Award Permanen		Commute Compron As Set	nised-	Total Av Perman Commute	ent plus	Pending, o			Total Claims	
=	(1)		(2)		(3) = (1	) + (2)	(4)			(5)	
	Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount	
a. Numbers and An	nounts 1										
(i) List	- '	-	1	-			-	-			
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	1	-	=	-			-	-			
	- 1	-	1	-			-	-			
	1	-	-	-			-	-			
	1	-	- 1	- 55,675			-	-			
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	1 1	-	-	-			-	-			
	1	-	-	-			-	-			
	1 1	-	-	-			-	-			
	1	258,531	-	-			-	-			
	- 1	218,962	1	-			-	-			
	=-	-	1	-			-	-			
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	-	-	-	-			-	-			
		-	-	-			-	-			
(i) Total	# 24	\$477,493 \$19,896	# 13	\$55,675 \$4,283	# 37	\$533,168 \$14,410	# 0	\$0 \$0	# 37	\$533,168 \$14,410	
(ii) Average b. Percentage of Av	varded and Com		mised within Tota			\$14,410		φU		\$14,410	
(i) Number	# 24		# 13		# 37						
(ii) Percentage	64.8649%		35.1351%		100%						
c. Difference Betwee	en Average Aw	arded Permane \$19,896	nt Claim and Ave	rage Commute \$4,283	ed/Compromised	d Claim					
(i) Average (ii) Difference (Col.	2 minus Col. 1)	φ13,030		φ4,203		(\$15,613)					
d. Pending claims S		ed and Commute	ed/Comp using A	warded Mix		(4.0,0.0)					
(i) Awarded Mix	64.8649%		35.1351%								
(ii) Number	# 0.0000		# 0.0000		· · · · · · ·		# 0				
e. Pending Average (i) Pending Ave.	e irom Above: C	Commuted and C \$0	compromised les	s Awarded Dif \$0	<u>ierence</u>						
(ii) C/C Difference		\$0		(\$15,613)							
(iii) (e-i) + (e-ii)	_	\$0	_	\$0	limited to zero	o: negative offse	t is impossible				
(iv) Total		\$0		\$0							
(d-ii) x (e-iii) (v) Total of (e-iv)								\$0			
f. Calculation of Im	pact of Adjustme	ent .						ΨU			
		varded			P	ending			To	tal	
•	Count	Amount	Average		Count	Amount	Average	-	Count	Amount	Average
(i) Permanent	# 24	\$477,493	\$19,896		# 0.0000	\$0 *0	\$0 ©0		# 24.0000	\$477,493	\$19,896
(ii) Comm./Comp. (iii) Total	# 13 # 37	\$55,675 \$533,168	\$4,283 \$14,410		# 0.0000 # 0.0000	\$0 \$0	\$0 \$0		# 13.0000 # 37.0000	\$55,675 \$533,168	\$4,283 \$14,410
(iv) Average Severi			Ψ17,710		π 0.0000	ψυ	ψυ		. 51.0000	ψυσυ, 100	\$14,410
(v) Impact	,										\$0
0	E-1-11-11-11-11-1										

	Award Permanei		Commute Comproi As Se	nised-	Total A Permar Commute		Pending, o Permanent B			Total Claims	
•	(1 Count		(2) Count			1) + (2) Amount	(4) Count	Amount	Count	(5) Amount	
a. Numbers and Ar	mounte										
(i) List	1	-	-	-			-	-			
	1	245,970	- ,	-			-	-			
	-	-	1	-			-	-			
	-	-	1	40,273			-	-			
	1	299,078	-	-			-	•			
	-	-	1	-			-	-			
	-	=	1	-			-	-			
	-	-	1	23,379			-	-			
	=	-	1	23,503			-	•			
	-	_	1	15,620			-				
	=	-	1	-			-	-			
	- 1	-	1	-			-	-			
	· ·	-	1	-			-	-			
	-	-	1	-			-	-			
	-	-	1	-			-	-			
	-	-	1	15,092 14,005			-	-			
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(i) Total	# 4	\$545,048	# 17	\$131,872	# 21	\$676,920	# 0	\$0	# 21	\$676,920	
(ii) Average		\$136,262	"	\$7,757	<i>"</i> <u>-</u> .	\$32,234	,, 0	\$0	<i>"-</i> "	\$32,234	
b. Percentage of A	warded and Cor		mised within Tot			** / *					
(i) Number	#4		# 17		# 21						
(ii) Percentage	19.0476%		80.9524%		100%						
c. Difference Between	een Average Av		ent Claim and Ave		ed/Compromise	d Claim					
(i) Average		\$136,262		\$7,757							
(ii) Difference (Col.						(\$128,505)					
d. Pending claims		ed and Commut		warded Mix							
(i) Awarded Mix	19.0476% # 0.0000		80.9524%				# 0				
(ii) Number		0	# 0.0000		*		# 0				
<ul><li>e. Pending Averag</li><li>(i) Pending Ave.</li></ul>	e irom Above:	Commuted and \$0	compromised les	ss Awarded Dif \$0	<u>ierence</u>						
(ii) C/C Difference		\$0 \$0		(\$128,505)							
(iii) (e-i) + (e-ii)	_	\$0 \$0	_	(\$120,505)	limited to zer	o: negative offse	et is impossible				
(iv) Total		\$0		\$0							
(d-ii) x (e-iii)		<b>~~</b>		Ψ.							
(v) Total of (e-iv)								\$0			
f. Calculation of Im	pact of Adjustm	<u>ient</u>						*			
		warded			F	Pending			To	tal	
	Count	Amount	Average		Count	Amount	Average	-	Count	Amount	Average
(i) Permanent	# 4	\$545,048	\$136,262		# 0.0000	\$0	\$0		# 4.0000	\$545,048	\$136,262
(ii) Comm./Comp.	# 17	\$131,872	\$7,757		# 0.0000	\$0	\$0		# 17.0000	\$131,872	\$7,757
(iii) Total	# 21	\$676,920	\$32,234		# 0.0000	\$0	\$0		# 21.0000	\$676,920	\$32,234
(iv) Average Sever	ity before Adjus	tment									\$32,234 \$0
(v) Impact											ΦU

Exhibit VII-E-b Page 5 Other Classes

# State O. D. Severity-Social Security Offset

	Aware Permanei	ded-	Commute Compror As Set	ed and nised-	Total A Permar Commute	varded- ent plus	Pending, o	on	amis	Total Claims	
	(1 Count		(2) Count			I) + (2) Amount	(4) Count	Amount	Count	(5) Amount	
a. Numbers and A	mounts										
(i) List	1	-	-	-			-	-			
	-	-	1	37,454			-	-			
	-	-	1	51,473			-	-			
	1	178,830		-			-	-			
	-	-	1	1,019			-	-			
	=	-	1	-			-	-			
	1	-	- 1	-			-	-			
	=	-	1	-			-	-			
	-	-	1	37,094			-	-			
	-	-	_ 1 	-			1	-			
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(1) T. 1. 1	#3	\$178,830	# 10	\$127,041	# 12	¢20E 971	# 1	\$0	# 14	\$305,871	
(i) Total (ii) Average	# 3	\$59,610	# 10	\$127,041	# 13	\$305,871 \$23,529	# 1	\$0 \$0	# 14	\$21,848	
b. Percentage of A	warded and Cor		mised within Tota			Ψ20,020		ΨΟ		Ψ21,040	
(i) Number	#3		# 10		# 13						
(ii) Percentage	23.0769%		76.9231%		100%						
c. Difference Betw	een Average Av		nt Claim and Ave		ed/Compromise	d Claim					
(i) Average	0	\$59,610		\$12,704		(\$46.006)					
(ii) Difference (Col. d. Pending claims			ad/Compusing A	warded Mix		(\$46,906)					
(i) Awarded Mix	23.0769%	ed and Commute	76.9231%	warded WIIX							
(ii) Number	# 0.2308		# 0.7692				# 1				
e. Pending Average		Commuted and (		s Awarded Dif	ference						
(i) Pending Ave.		\$0		\$0							
(ii) C/C Difference	_	\$0	_	(\$46,906)							
(iii) (e-i) + (e-ii)		\$0 \$0		\$0 ©0	limited to zer	o: negative offse	t is impossible				
(iv) Total		\$0		\$0							
(d-ii) x (e-iii) (v) Total of (e-iv)								\$0			
f. Calculation of In	npact of Adjustm	ent						ΨΟ			
	A	warded			F	ending			То	tal	
	Count	Amount	Average		Count	Amount	Average	•	Count	Amount	Average
(i) Permanent	#3	\$178,830	\$59,610		# 0.2308	\$0	\$0		# 3.2308	\$178,830	\$55,352
(ii) Comm./Comp.	# 10 # 13	\$127,041 \$305.871	\$12,704 \$23,520		# 0.7692	\$0 \$0	\$0 \$0		# 10.7692 # 14.0000	\$127,041 \$305,871	\$11,797 \$21,848
(iii) Total (iv) Average Sever	# 13 rity before Adius	\$305,871 tment	\$23,529		# 1.0000	Φυ	\$0		# 14.0000	\$305,871	\$21,848 \$21,848
(v) Impact	, sololo Aujus										\$0

# Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

		rded- ent Basis	Commute Compron As Set	nised-	Total Awarded- Permanent plus Commuted/Comp.	Pending, o			Total Claims	
•		1) Amount	(2) Count	Amount	(3) = (1) + (2) Count Amount	(4) Count	Amount	Count	(5) Amount	
a. Numbers and Ar										
(i) List	1	151,129	-	-		-	-			
	1	185,420 195,740	-			-	-			
	1	149,842	=	-		-	-			
	1	162,869	=	•		-	=			
	1 -	169,412	1	72,714		-	-			
	-	-	1	-		-	-			
		-	1			-	-			
	-	-	=	-		-	-			
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(i) Total	# 6	\$1,014,412	#3	\$72,714	#9 \$1,087,126	# 0	\$0	# 9	\$1,087,126	
(ii) Average	# 0	\$169,069	#3	\$24,238	\$120,792	# 0	\$0 \$0	# 3	\$120,792	
b. Percentage of A	warded and Co		mised within Tota		¥120,102				ψ.20,.02	
(i) Number	#6		#3		#9					
(ii) Percentage	66.6667%		33.3333%		100%					
	een Average A		nt Claim and Ave		d/Compromised Claim					
(i) Average		\$169,069		\$24,238	(6444.024)					
(ii) Difference (Col. d. Pending claims			ad/Comp using A	worded Mix	(\$144,831)					
(i) Awarded Mix	66.6667%	ded and Commu	33.3333%	warded WIIX						
(ii) Number	# 0.0000		# 0.0000			# 0				
e. Pending Averag					erence					
(i) Pending Ave.		\$0		\$0						
(ii) C/C Difference	-	\$0	_	(\$144,831)						
(iii) (e-i) + (e-ii)		\$0 \$0		\$0 \$0	limited to zero: negative offset	is impossible				
(iv) Total (d-ii) x (e-iii)		\$0		\$0						
(u-II) x (e-III) (v) Total of (e-iv)							\$0			
f. Calculation of Im	pact of Adjusti	ment					¥*			
		Awarded			Pending				otal	
	Count	Amount	Average		Count Amount	Average	•	Count	Amount	Average
(i) Permanent	#6	\$1,014,412	\$169,069		# 0.0000 \$0	\$0 ©0		# 6.0000	\$1,014,412	\$169,069
(ii) Comm./Comp.	#3 #9	\$72,714 \$1,087,126	\$24,238 \$120,702		# 0.0000 \$0 # 0.0000 \$0	\$0 \$0		# 3.0000	\$72,714 \$1,087,126	\$24,238
(iii) Total (iv) Average Severi		\$1,087,126 stment	\$120,792		# 0.0000 \$0	ΦU		# 9.0000	\$1,087,126	\$120,792 \$120,792
(v) Impact	, serere Auju									\$120,732

(v) Impact

	Awai	rded-	Commu			warded- ent plus	Pendir	ng, on			
-	Permane	ent Basis	As S	ettled	Commute	ed/Comp.	Permane	nt Basis		Total Claims	
	Count	1) Amount	Count	2) Amount	Count	1) + (2) Amount	(4 Count	Amount	Count	(5) Amount	
a. Numbers and An	nounts_										
(i) List	1	377,961	- 1	100,559			-	-			
	-	-	1	149,297			-	-			
	-	-	1	132,286 50,833			-	-			
	-	-	1	49,072 23,592			-	-			
	-	-	1	99,200			-	-			
	1	244,225 373,052	-	-			-	-			
	1	334,259		-			-	-			
	-	-	1	154,888 28,472			-	-			
	1	306,317	- 1	117			-	-			
	-	-	1	14,655			-	-			
	1	266,030	- 1	-			-	-			
	-	-	1	83,888			-	-			
	-	-	1	131			-	-			
	-	-	1	99,523			-	=			
	-	-	1	-			-	-			
	-	-	1	61 72,822			-	-			
	-	-	1	-			-	-			
	-	-	1	57,321			-	-			
	-	-	1	-			-	-			
	-	-	1 1	74,743			-	-			
	-	-	1	140,687			-	-			
	-	-	1	-			-	-			
	-	-	1	136,993			-	-			
	-	-	1	159,298			-	-			
	-	-	1	60,446			-	-			
	-	-	1	68,331			-	-			
	-	-	1 1	53,239 5,847			-	-			
	-	-	1	44,273			-	-			
	-	-	1	88,721			-	-			
	-	-	1	114,075			1	310,038			
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	-	-	1	5,995			1	236,921			
	1	249,116	- 1	-			-	-			
	-	-	1	-			-	-			
	-	-	1	3,657			-	-			
	-	-	1	47,573				-			
	-	-	-	=			1	357,650 573,441			
	-	-	- 1	- 5 271			1	240,772			
	-	-	1	5,371			-	-			
(i) Total	#7	\$2,150,960 \$307,280	# 49	\$2,125,967	# 56	\$4,276,928	# 5	\$1,718,823	# 61	\$5,995,751	
b. Percentage of Av	warded and Co		mised within To	\$43,387 otal Awarded		\$76,374		\$343,765		\$98,291	
(i) Number	#7		# 49		# 56						
(ii) Percentage	12.5000%	1.15	87.5000%		100%	1.01-1					
c. Difference Between (i) Average	een Average A	\$307,280	ni Ciaim and A	\$43,387	d/Compromise	d Claim					
(ii) Difference (Col.						(\$263,893)					
d. Pending claims	Split into Award 12.5000%	ded and Commute	ed/Comp using 87.5000%	Awarded Mix							
(i) Awarded Mix (ii) Number	# 0.6250		# 4.3750				# 5				
e. Pending Average					erence						
(i) Pending Ave.		\$343,765		\$343,765							
(ii) C/C Difference (iii) (e-i) + (e-ii)	-	\$0 \$343,765	-	(\$263,893) \$79,872							
(iv) Total		\$214,853		\$349,439							
(d-ii) x (e-iii)								0504.004			
(v) Total of (e-iv)  f. Calculation of Im	nact of Adjustr	nent						\$564,291			
Calculation of IIII		warded				Pending			To	otal	
•	Count	Amount	Average		Count	Amount	Average		Count	Amount	Average
<ul><li>(i) Permanent</li><li>(ii) Comm./Comp.</li></ul>	# 7 # 49	\$2,150,960 \$2,125,967	\$307,280 \$43,387		# 0.6250 # 4.3750	\$214,853 \$349,439	\$343,765 \$79,872		# 7.6250 # 53.3750	\$2,365,813 \$2,475,406	\$310,271 \$46,378
(ii) Comm./Comp. (iii) Total	# 56	\$4,276,928	\$76,374		# 5.0000	\$564,291	\$112,858		# 61.0000	\$4,841,219	\$79,364
(iv) Average Severi			•				•			•	\$98,291
(v) Impact											(\$18,927)
Source:	Exhibit IX-A										

# Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awai Permane		Commute Compron As Set	nised-	Total Awarded- Permanent plus Commuted/Comp.	Pending, o			Total Claims	
_	Count (*		(2) Count		(3) = (1) + (2) Count Amount	(4) Count	Amount	Count	(5) Amount	
a. Numbers and Am	ounts_									
i) List	1	182,576		-		-	•			
	1	165,359	1	-		-	-			
	1	148,316	-	-		-	-			
	1	-	- 4	- 04.040		-	-			
	1	240,773	1	21,212		-	-			
	1		-	-		-	-			
		-	1	134,676		-	-			
	1	226,417 227,473	-	-		-	-			
	1	174,182	-	-		-	-			
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	1	160,949	- '	-		-	-			
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	1	216,462	- 1	54,819		-	-			
	1	148,964	- '	-		-	-			
	1	99,480	-	-		-	-			
	1	198,075	-	-		-	-			
	1	341,834	-	-		-	-			
	1	105,794	-	-		-	-			
	1	208,919	- 1	13,371		-	-			
	1	103,204	-	13,3/1		-	-			
	-	-	1	84,178		-	-			
	1	160,593	-	-		-	-			
	-	158,359	1	60,596		-	-			
	-	-	1	79,405		-	-			
	-	-	1	55,425		-	-			
	-	-	1	29,545 46,691		-	-			
	-	-	1	125,111		-	-			
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Total	# 24	\$3,267,731	# 13	\$705,027	# 37 \$3,972,758	# 0	\$0	# 37	\$3,972,758	
Average		\$136,155		\$54,233	\$107,372		\$0		\$107,372	
		mmuted/Compro	mised within Tota	al Awarded	# 27					
Number	# 24		# 13 35 1351%		# 37 100%					
Percentage	64.8649% en Average A	warded Dermo-	35.1351% ant Claim and Ave	rane Commit	100% ed/Compromised Claim					
литегепсе ветwee	en Average A	\$136,155	on Ciaim and AVE	\$54,233	euroompromiseu Claim					
-verage Difference (Col. 2	2 minus Col 1			ψο-1,200	(\$81,923)					
			ted/Comp using A	warded Mix	(401,020)					
Awarded Mix	64.8649%		35.1351%							
Number	# 0.0000		# 0.0000			# 0				
Pending Average	from Above:		Compromised les		ference					
Pending Ave.		\$0		\$0						
C/C Difference	_	\$0	_	(\$81,923)						
		\$0 ©0		\$0	limited to zero: negative offset	t is impossible				
		\$0		\$0						
Total							¢Λ			
Total I-ii) x (e-iii)							\$0			
Total I-ii) x (e-iii) Total of (e-iv)	nest of Adian	nont								
Total d-ii) x (e-iii) Total of (e-iv)					Pending			т	ital	
Total d-ii) x (e-iii) Total of (e-iv)	P	warded	Average		Pending Count Amount	Average		Count		Δνα
Total J-ii) x (e-iii) Total of (e-iv) Calculation of Imp	Count	warded Amount	Average \$136,155		Count Amount	Average \$0		Count	Amount	
Total I-ii) x (e-iii) Total of (e-iv) Calculation of Imp	Count # 24	Amount \$3,267,731	\$136,155		Count Amount # 0.0000 \$0	\$0		Count # 24.0000	Amount \$3,267,731	Ave \$136 \$54
Total d-ii) x (e-iii) Total of (e-iv) Calculation of Imp  Permanent Comm./Comp.	Count # 24 # 13	Amount \$3,267,731 \$705,027	\$136,155 \$54,233		Count Amount # 0.0000 \$0 # 0.0000 \$0	\$0 \$0		Count # 24.0000 # 13.0000	Amount \$3,267,731 \$705,027	
(iii) (e-i) + (e-ii) (iv) Total (d-ii) x (e-ii) (y) Total of (e-iv) . Calculation of Imp  - (i) Permanent (ii) Comm./Comp. (iii) Total (iv) Average Severiti	Count # 24 # 13 # 37	Amount \$3,267,731 \$705,027 \$3,972,758	\$136,155		Count Amount # 0.0000 \$0	\$0		Count # 24.0000	Amount \$3,267,731	_

Source: Exhibit IX-A

# Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awar	ded-	Commut	ed and mised-	Total <i>I</i> Perma	warded- nent plus	Pending, o	on	ams		
	Permane (1	)	As Se	!)	(3) =	(1) + (2)	Permanent B (4)		Count	Total Claims (5)	
	Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount	
a. Numbers and Ar (i) List	1	398,379	-	-			-	-			
	- 1	162,674	- 1	-			- -	-			
	-	-	1	63,606 38,498			-	-			
	1	166,594		-			=	-			
	-	-	1	6,741			-	-			
	-	-	1	113,802			- -	-			
	-	-	1	20,872			-	-			
	-	-	1	131,474			- -	-			
	-	-	1	82,717			-	-			
	1	260,963		-			-	-			
	-	-	1	90,135			-	-			
	-	-	1	17,246			=	-			
	-	-	1	12,187			-	-			
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	" 4	<b>#</b> 000 000	" 47	<b>A</b> F77 070	".04	04 505 007	" 0		" 04	04 505 007	
(i) Total (ii) Average	# 4	\$988,609 \$247,152	# 17	\$577,278 \$33,958	# 21	\$1,565,887 \$74,566	# 0	\$0 \$0	# 21	\$1,565,887 \$74,566	
b. Percentage of A						, ,,,,,,					
(i) Number	# 4 19.0476%		# 17 80.9524%		# 21 100%						
(ii) Percentage c. Difference Between		varded Permane		erage Commute		ed Claim					
(i) Average		\$247,152		\$33,958							
(ii) Difference (Col. d. Pending claims			ed/Comp using	Awarded Miv		(\$213,195)					
(i) Awarded Mix	19.0476%	ed and Commun	80.9524%	-warded wiix							
(ii) Number	# 0.0000		# 0.0000				# 0				
e. Pending Averag  (i) Pending Ave.	e from Above:	Commuted and ( \$0	Compromised le	ss Awarded Dif \$0	terence						
(ii) C/C Difference		\$0		(\$213,195)							
(iii) (e-i) + (e-ii)	_	\$0 \$0	_	\$0 ©0	limited to ze	ro: negative offse	et is impossible				
(iv) Total (d-ii) x (e-iii)		\$0		\$0							
(v) Total of (e-iv)								\$0			
f. Calculation of Im						Dondin =		<del></del>	-	nto!	
	Count	warded Amount	Average		Count	Pending Amount	Average		Count	otal Amount	Average
(i) Permanent	# 4	\$988,609	\$247,152		# 0.0000	\$0	\$0		# 4.0000	\$988,609	\$247,152
(ii) Comm./Comp.	# 17 # 21	\$577,278 \$1,565,887	\$33,958 \$74,566		# 0.0000	\$0 \$0	\$0 \$0		# 17.0000	\$577,278 \$1,565,887	\$33,958 \$74,566
(iii) Total (iv) Average Sever	# 21 ity before Adjus	\$1,565,887 tment	\$74,566		# 0.0000	\$0	\$0		# 21.0000	\$1,565,887	\$74,566 \$74,566
(v) Impact	. ,										\$0

Source: Exhibit IX-A

(v) Impact

\$0

Exhibit VII-E-c Page 5 Other Classes

# State O. D. Severity- Private Pension Offset

	Award		Commute Comproi	ed and	Total A	warded- ent plus	Pendin		Ciaillis		
	Permaner (1)	nt Basis	As Se	ttled	Commute		Permaner (4	nt Basis		Total Claims (5)	
	Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount	
<ul> <li>a. Numbers and Ar</li> <li>(i) List</li> </ul>	mounts 1	424,018	-	-			-	-			
		-	1 1	4,789			-	-			
	-	-	1	-			=	-			
	- 1 -	97,514 -	1	-			-	-			
	-	-	1 1	44,528			-	-			
	1	91,166	- 1	- 57,101			-	-			
	-	-	1	-			-	-			
	-	-	1 1	2,456 40,427			-	-			
	-	-	-	-			- 1	484,576			
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	-	-	=	=			=	-			
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(i) Total	#3	\$612,699	# 10	\$149,299	# 13	\$761,998	# 1	\$484,576	# 14	\$1,246,574	
(ii) Average b. Percentage of A	warded and Cor	\$204,233 nmuted/Compro	mised within Tot	\$14,930 al Awarded		\$58,615		\$484,576		\$89,041	
(i) Number	#3		# 10		# 13						
(ii) Percentage c. Difference Betw	23.0769%	arded Permane	76.9231%	erage Commute	100%	d Claim					
(i) Average	CCIT/WCIAGC /W	\$204,233	THE CHAITTI GITA 7 W	\$14,930	<u>ar Compromise</u>						
(ii) Difference (Col. d. Pending claims			- d/C	house and a state of		(\$189,303)					
(i) Awarded Mix	23.0769%	ed and Commu	76.9231%	warded wiix							
(ii) Number	# 0.2308		# 0.7692				#1				
e. Pending Averag  (i) Pending Ave.	ge from Above:	\$484,576	Compromised les	ss Awarded Diff \$484,576	erence						
(ii) C/C Difference		\$0	_	(\$189,303)							
(iii) (e-i) + (e-ii) (iv) Total		\$484,576 \$111,825		\$295,273 \$227,133							
(d-ii) x (e-iii)		ψ111,020		Ψ <b>22</b> 1,100							
(v) Total of (e-iv)	most of Adication	ont						\$338,958			
f. Calculation of In		<u>ent</u> warded			F	Pending			To	otal	
=	Count	Amount	Average		Count	Amount	Average		Count	Amount	Average
<ul><li>(i) Permanent</li><li>(ii) Comm./Comp.</li></ul>	# 3 # 10	\$612,699 \$149,299	\$204,233 \$14,930		# 0.2308 # 0.7692	\$111,825 \$227,133	\$484,576 \$295,273		# 3.2308 # 10.7692	\$724,524 \$376,432	\$224,257 \$34,954
(iii) Total	# 13	\$761,998	\$58,615		# 1.0000	\$338,958	\$338,958		# 14.0000	\$1,100,956	\$78,640
(iv) Average Sever	rity before Adjust	tment									\$89,041 (\$10,401)
(v) Impact											(\$10,401)

#### Exhibit VII-E-d Page 1 <u>Underground Antrhacite</u>

#### Federal Excess Before Offsets

#### Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

Court   Arrount   Court   Ar		Awar Permane		Commu Compro As Se	omised-	Total A Perman Commute	ent plus	Pending, Permanent E			Total Claims	
0) Totals	-	(1	)	(2	2)	(3) = (	1) + (2)	(4)		Count	(5)	
(i) Total # 6 \$42 # 3 \$1,068,737 # 9 \$1,058,778 # 0 \$0 # 9 \$1,059,778   (ii) Avenings	a. Numbers and Am	nounts										
(i) Total # 6 \$42 # 3 \$1,068.737 # 9 \$1,088,778 # 0 \$0 # 9 \$1,058,778 (iii) Provings and Province Annual Provi		1	23	-	-			=	-			
(i) Triolal # 6 \$42 # 3 \$1,058,777 # 9 \$1,058,778 # 0 \$0 # 9 \$1,05			0	-	-			-	-			
(i) Triolal # 6 \$42 # 3 \$1,058,777 # 9 \$1,058,778 # 0 \$0 # 9 \$1,05		1	7	-	-			-	-			
(i) Total   #6   \$42   #3 \$1,059.737   #9 \$1,059.778   #0   \$0   #9 \$1,059.778   (ii) Norman   \$1,059.778   \$		1						-	-			
(i) Total # 6 \$42 # 3 \$1,055,737 # 9 \$1,056,778 # 0 \$0 # 9 \$1,058,778 (ii) Average   1,000		-	-	1				-	-			
Signature   Sign		-	-	1	394,759			-	-			
Average   \$7		-	-	-	-			-	-			
Signature   Sign		-	-	-	=			-	-			
Signature   Sign		-	-	-	-			-	-			
Average   \$7		-	-	-	-			-	-			
Average   \$7		-	-	=	-			-	-			
Average   \$7		-	-	-	-			-	-			
Average   \$7		-	-	-	-			-	-			
Average   \$7		-	-	-	-			-	-			
Average   \$7		-	-	-	-			-	-			
Average   \$7		-	-	-	-			-	-			
Average   \$7		-	-	-	-			-	-			
Signature   Sign		-	-	-	-			-	-			
Signature   Sign		-	-	-	-			-	-			
Signature   Sign		-	-	-	=			-	-			
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Signature   Sign		=	-	-	=			-	-			
(ii) Average         \$7         \$352,912         \$117,642         \$0         \$117,642           b. Percentage of Awarded and Commuted/Compromised within Total Awarded (i) Number         # 6         # 3         # 9           (ii) Percentage         66.667%         33.3333%         100%           c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim         (i) Average         \$7         \$352,912           (ii) Difference (Col. 2 minus Col. 1)         \$352,905         \$352,905         \$352,905           d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix         (i) Awarded Mix         66.6667%         33.3333%           (ii) Number         # 0.0000         # 0         # 0           e. Pending Average from Above: Commuted and Compromised less Awarded Difference         (i) Pending Average from Above: Commuted and Compromised less Awarded Difference         (i) C/C Difference         \$0         \$352,905           (ii) (C/C Difference         \$0         \$352,905         \$0         \$0         \$0           (iii) (e-i) + (e-ii)         \$0         \$352,905         \$0         \$0         \$0           (iv) Total of (e-iv)         \$0         \$0         \$0         \$0         \$0         \$0           f. Calculation of Impact of Adjustment         Awarded         Pen	(i) Total	#6	\$42	#3	\$1,058,737	#9	\$1,058,778	# 0	\$0	# 9	\$1,058,778	
(ii) Number # 6 # 6 # 3 # 3 # 9	(ii) Average				\$352,912				\$0			
(ii) Percentage         66.6667%         33.3333%         100%           c. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim (i) Average         \$7         \$352,912           (ii) Oliference (Col. 2 minus Col. 1)         \$352,905         \$352,905           d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix (ii) Awarded Mix (iii) Awarded Mix			mmuted/Comproi		tal Awarded	#0						
C. Difference Between Average Awarded Permanent Claim and Average Commuted/Compromised Claim (i) Average												
(ii) Difference (Col. 2 minus Col. 1) \$352,905  d. Pending claims Split into Awarded and Commuted/Comp using Awarded Mix (i) Awarded Mix 66.6667% 33.3333% (iii) Number # 0.0000 # 0.0000 # 0  e. Pending Average from Above: Commuted and Compromised less Awarded Difference (i) Pending Ave. \$0 \$352,905 (iii) (ci-) + (ci-ii) \$0 \$352,905 (iiii) (ci-) + (ci-ii) \$0 \$0 \$352,905 (d-ii) x (e-iii) (v) Total of (e-iv) \$0 \$0   f. Calculation of Impact of Adjustment  Awarded Mix Average Pending  Average Count Amount Average Count Amount Average  \$0 Total  Amount Amount Amount Average							d Claim					
Dending claims Split into Awarded and Commuted/Comp using Awarded Mix (i) Awarded Mix 66.6667% 33.33333% (ii) Warded Mix 66.6667% 33.33333% (ii) Warded Mix 66.6667% 30.333333% (ii) Warded Mix 66.6667% 30.33333% (ii) Warded Mix 66.6667% 30.3333% (ii) Warded Mix 66.6667% 30.33333% (ii) Warde					\$352,912		<b>6252 005</b>					
(ii) Awarded Mix   66.6667%   33.3333%   # 0   # 0   # 0     #				ed/Comp using	Awarded Mix		\$352,905					
Section   Pending Average from Above: Commuted and Compromised less Awarded Difference   \$0		66.6667%	Commute	33.3333%								
(i) Pending Ave. \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0								# 0				
(ii) C/C Difference \$0 \$352,905 ( iii) (e-i) + (e-ii) \$0 \$352,905 ( iv) Total \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0		e from Above:		Compromised le		<u>erence</u>						
(iii) (e-i) + (e-ii) \$0 \$352,905 (iv) Total \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0												
(d-ii) x (e-iii)     \$0       (y) Total of (e-iv)     \$0 <u>f. Calculation of Impact of Adiustment</u> Awarded     Pending     Total       Count     Amount     Average     Count     Amount     Average     Count     Amount	(iii) (e-i) + (e-ii)	_	\$0	-	\$352,905							
(v) Total of (e-iv)         \$0           f. Calculation of Impact of Adjustment         Pending         Total           Awarded         Count         Amount         Average         Count         Amount         Average         Count         Amount			\$0		\$0							
f. Calculation of Impact of Adjustment         Pending         Total           Awarded         Pending         Total           Count         Amount         Average         Count         Amount         Average									<b>\$</b> 0			
Awarded Pending Total  Count Amount Average Count Amount Average Count Amount		pact of Adjustn	nent_						Ψ			
		А	warded									
	(i) Permanent	Count #6	Amount \$42	Average \$7		Count # 0.0000	Amount \$0	Average \$0		Count # 6.0000	Amount \$42	Average \$7
												\$352,912
(iii) Total #9 \$1,058,778 \$117,642 #0.0000 \$0 \$0 #9.0000 \$1,058,778 \$	(iii) Total	#9	\$1,058,778									\$117,642 \$117.642

Source: Exhibit IX-A

(iv) Average Severity before Adjustment

(v) Impact

\$117,642

\$0

#### Exhibit VII-E-d Page 2 <u>Underground Bituminous</u>

#### Federal Excess Before Offsets

	Awarde Permanent		Commute Compror As Sei	nised-	Total Awa Permanen Commuted/	t plus	Pending Permanent			Total Claims	
	(1)		(2)		(3) = (1)	+ (2)	(4)			(5)	
	Count	Amount	Count	Amount	Count	Amount	Count	Amount	Count	Amount	
a. Numbers and A				-							
(i) List	1 -	-	1	206,932			-	-			
	-	-	1	209,135			-	-			
	-	-	1	258,795			-	-			
	-	-	1	223,221 223,352			-	-			
	-	-	1	270,516			-	-			
	- 4	-	1	203,220			-	-			
	1	-	-	-			-	-			
	1	-	=-	-			-	-			
	-	-	1	235,701			-	-			
	1	-	1	100,817			-				
	- '	-	1	280,192			-	-			
	- 4	-	1	238,657			-	-			
	1		1	443,126			-	-			
	-	-	1	264,194			-	-			
	-	-	1	471,387			-	-			
	-	-	1	279,249 266,584			-	-			
	-	-	1	531,122			-	-			
	-	-	1	415,913			-	-			
	-	-	1	258,036 182,169			-	-			
	-	-	1	281,047			-	-			
	-	-	1	306,118			-	-			
	-	-	1	240,573 690,759			-	-			
	-	-	1	359,110			-	-			
	-	•	1	101,082			-	-			
	-	-	1	536,780 208,120			-	-			
	-		1	360,869			-	-			
	-	•	1	260,591			-	-			
	-	-	1	475,920 170,372			-	-			
	-		1	249,797			-	-			
	-	•	1	116,982			-	-			
	-	-	1	215,893 263,047			=	-			
	-		1	290,693			-	-			
	-	-	1	133,496			-	-			
	-	•	1	106,460 93,335			-	-			
	-		- '	90,000			1	-			
	-	•	1	243,712			-	-			
	-	-	1	131,144			- 4	-			
	-	-	1	288,321			- 1	-			
	1	-	=-	-			-	-			
	-	-	1	359,726			-	-			
	-	-	1	45,103 101,093			-				
	-		1	329,346			-	-			
	=	•	1	270,540			- ,	-			
	-		-	-			1 1	-			
	-	-	-	-			1	-			
	-	-	1	268,583			-	-			
(i) Total	#7	\$0	# 49	13,060,928	#56 \$1	3,060,928	# 5	\$0	# 61	\$13,060,928	
(ii) Average	" '	\$0	n 40 (	\$266,550		\$233,231	" 0	\$0	" 01	\$214,114	
	warded and Comm	nuted/Compron	nised within Tota	al Awarded		,		**		,	
(i) Number	#7		# 49		# 56						
(ii) Percentage	12.5000%		87.5000%		100%						
c. Difference Betw	een Average Awar		nt Claim and Ave		d/Compromised (	Claim					
(i) Average		\$0		\$266,550							
(ii) Difference (Col.		10				\$266,550					
d. Pending claims		and Commute		warded Mix							
(i) Awarded Mix (ii) Number	12.5000% # 0.6250		87.5000% # 4.3750				# 5				
e. Pending Average		mmuted and C		se Awarded Diff	erence		# 0				
Pending Averag  (i) Pending Ave.	nom Above: Co	mmuted and C	onpromised les	ss Awarged Diff. \$0	<u>ordined</u>						
(ii) C/C Difference		\$0 \$0		\$266,550							
(iii) (e-i) + (e-ii)		\$0	_	\$266,550							
(iv) Total		\$0		\$1,166,154							
(d-ii) x (e-iii)		•									
(v) Total of (e-iv)								\$1,166,154			
f. Calculation of In											
		rded				nding				otal	
(1) D	Count	Amount	Average		Count	Amount	Average		Count	Amount	Average
(i) Permanent	#7	\$0	\$0		# 0.6250	\$0	\$0		# 7.6250	\$0	\$0

<ol> <li>Calculation of Im</li> </ol>	pact of Adjus	tment							
		Awarded		F	Pending		7	Total .	
	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average
(i) Permanent	#7	\$0	\$0	# 0.6250	\$0	\$0	# 7.6250	\$0	\$0
(ii) Comm./Comp.	# 49	\$13,060,928	\$266,550	# 4.3750	\$1,166,154	\$266,550	# 53.3750	\$14,227,082	\$266,550
(iii) Total	# 56	\$13,060,928	\$233,231	# 5.0000	\$1,166,154	\$233,231	# 61.0000	\$14,227,082	\$233,231
(iv) Average Sever	ity before Adj	ustment							\$214,114
(v) Impact									\$19,117

# Exhibit VII-E-d Page 3 Surface Anthracite

#### Federal Excess Before Offsets

#### Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

		rded- ent Basis	Commut Compro As Se	mised-	Perma	Awarded- nent plus ted/Comp.	Pending, o Permanent E			Total Claims	
		1) Amount	Count			(1) + (2) Amount	(4) Count	Amount	Count	(5) Amount	
a. Numbers and A											
(i) List	1	-	- 1	79,401			-	-			
	1	12,471	- '	-			-	-			
	1	21	-	=			-	-			
	- 1	-	1	301,941			-	-			
	1	-	- 1	- 141,947			-	-			
	1	-	- '	-			-	-			
	1	-	-	-			-	-			
	1 1	44,678	-	-			-	-			
	-	-	1	267,334			-	=			
	1	-	-	-			-	-			
	1	-	- 1	122,471			-	-			
	1	0	- '	-			-	-			
	1	2	-	-			-	-			
	1	-	-	-			=	-			
	1	0	-	-			-	-			
	1	-	- 1	231,414			-	-			
	1	1,243	- 4	270,919			-	-			
	1	-	-	270,919			-	-			
	1	25	- 1	102,016			-	-			
	-	-	1	173,638			-	-			
	-	-	1 1	102,729 156,103			-	-			
	-	-	1	103,264 228,030			-	-			
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	-	-	-	-			-	-			
(i) Total (ii) Average	# 24	\$58,441 \$2,435	# 13	\$175,478	# 37	\$2,339,649 \$63,234	# 0	\$0 \$0	# 37	\$2,339,649 \$63,234	
b. Percentage of A (i) Number	Awarded and Co # 24	mmuted/Compro	mised within To # 13	tal Awarded	# 37						
(ii) Percentage	64.8649%		35.1351%		100%						
c. Difference Betw	een Average A		ent Claim and Av		ed/Compromis	ed Claim					
(i) Average (ii) Difference (Col.	l. 2 minus Col. 1	\$2,435 1)		\$175,478		\$173,043					
d. Pending claims	Split into Awar			Awarded Mix		· · ·					
(i) Awarded Mix (ii) Number	64.8649% # 0.0000		35.1351% # 0.0000				# 0				
e. Pending Average		Commuted and		ess Awarded Diff	ference		# U				
(i) Pending Ave.	=	\$0		\$0							
(ii) C/C Difference (iii) (e-i) + (e-ii)	-	\$0 \$0	-	\$173,043 \$173,043							
(iii) (e-i) + (e-ii) (iv) Total		\$0 \$0		\$173,043 \$0							
(d-ii) x (e-iii)								4-			
(v) Total of (e-iv)  f. Calculation of In	mnact of Adjusts	ment						\$0			
Gaiodiation of III		Awarded				Pending			To	otal	
(h) D	Count	Amount	Average		Count	Amount	Average		Count	Amount	Average
<ul><li>(i) Permanent</li><li>(ii) Comm./Comp.</li></ul>	# 24 # 13	\$58,441 \$2,281,208	\$2,435 \$175,478		# 0.0000 # 0.0000	\$0 \$0	\$0 \$0		# 24.0000 # 13.0000	\$58,441 \$2,281,208	\$2,435 \$175,478
(iii) Total	# 37	\$2,339,649	\$63,234		# 0.0000	\$0	\$0		# 37.0000	\$2,339,649	\$63,234
(iv) Average Sever	rity before Adju	stment									\$63,234 \$0

Source: Exhibit IX-A

(v) Impact

\$0

#### Exhibit VII-E-d Page 4 <u>Surface Bituminous</u>

#### Federal Excess Before Offsets

#### Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

		4. 4	Commut			Awarded-	D f				
<u>-</u>	Awar Permane		Compro As Se	ettled	Commu	nent plus ted/Comp.	Pending, o Permanent E			Total Claims	
	(1 Count	) Amount	(2 Count	2) Amount	(3) = Count	(1) + (2) Amount	(4) Count	Amount	Count	(5) Amount	
a. Numbers and Am											
(i) List	1	-	-	-			-	-			
	1	10	- 1	- 515,705			-	-			
	-	-	1	94,710			-	-			
	- 1	- 3	1	299,534			-	-			
	- '	-	1	258,177			-	-			
	-	-	1	303,496			=	-			
	-		1	224,337 343,144			-	-			
	-	-	1	338,450			-	-			
	-	-	1	94,314 316,730			-	-			
	-	-	1	93,772			-	-			
	- 1	-	1	289,784			-	-			
	- '	-	1	187,230			=	-			
	-	-	1	40,772			-	-			
	-	-	1	310,035 146,034			-	-			
	-	-	1	334,456			-	-			
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(i) Total	# 4	\$13	# 17	\$4,190,682	# 21	\$4,190,695	# 0	\$0	# 21	\$4,190,695	
(ii) Average b. Percentage of Av		\$3	nin and codebin. To	\$246,511		\$199,557		\$0		\$199,557	
(i) Number	# 4	mmuted/Compror	# 17	ital Awarded	# 21						
(ii) Percentage	19.0476%		80.9524%		100%						
c. Difference Between	en Average Av		nt Claim and Av		d/Compromis	ed Claim					
(i) Average		\$3		\$246,511		0040 507					
(ii) Difference (Col. d. Pending claims S			d/Comp using	Awardad Miv		\$246,507					
(i) Awarded Mix	19.0476%	ied and Commute	80.9524%	Awarded WIIX							
(ii) Number	# 0.0000		# 0.0000				# 0				
e. Pending Average					erence						
(i) Pending Ave.		\$0		\$0							
(ii) C/C Difference	_	\$0	-	\$246,507							
(iii) (e-i) + (e-ii)		\$0 \$0		\$246,507 \$0							
(iv) Total (d-ii) x (e-iii)		φU		\$0							
(v) Total of (e-iv)								\$0			
f. Calculation of Imp								*-			
-		warded				Pending		-		otal	
(i) Pormot	Count # 4	Amount \$13	Average		Count # 0.0000	Amount \$0	Average \$0		Count # 4.0000	Amount \$13	Average
(i) Permanent (ii) Comm./Comp.	# <del>4</del> # 17	\$4,190,682	\$3 \$246,511		# 0.0000	\$0 \$0	\$0 \$0		# 4.0000 # 17.0000	\$4,190,682	\$3 \$246,511
(iii) Total	# 21	\$4,190,695	\$199,557		# 0.0000	\$0	\$0		# 21.0000	\$4,190,695	\$199,557
(iv) Average Severi			• • •			• •	• •				\$199.557

(iv) Average Severity before Adjustment

(v) Impact

\$199,557

\$0

#### Exhibit VII-E-d Page 5 Other Classes

#### Federal Excess Before Offsets

	Award Permaner	nt Basis	Commut Compro As Se	omised- ettled	Total Av Perman Commute	ent plus d/Comp.	Pending, Permanent			Total Claims	
	(1) Count	) Amount	(2 Count	?) Amount	(3) = (1 Count	) + (2) Amount	(4) Count	Amount	Count	(5) Amount	
Numbers and Ar											
List	1	-		246.004			-	-			
	-	-	1	316,904 370,725			-	-			
	-	-	1	324,018			-	-			
	1	28	-	-			-	-			
	-	-	1	202,832			-	-			
	-	-	1	124,172 726,353			-	-			
	1	-	-	-			-	-			
	-	-	1	55,864			-	-			
	-	-	1 1	270,675 313,069			-	-			
	-	-	1	171,193			-	-			
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otal	#3	\$28	# 10	\$2,875,804	# 13	\$2,875,831	#1	\$0	# 14	\$2,875,831	
verage		\$9		\$287,580		\$221,218		\$0		\$205,417	
ercentage of A	warded and Con	nmuted/Compro		tal Awarded			-			-	
umber	#3		# 10		# 13						
ercentage	23.0769%		76.9231%		100%						
	een Average Aw		nt Claim and Av	verage Commute	d/Compromise	d Claim					
verage		\$9		\$287,580							
	2 minus Col. 1)					\$287,571					
	Split into Awarde	ed and Commute		Awarded Mix							
warded Mix	23.0769%		76.9231%								
umber	# 0.2308		# 0.7692				#1				
	e from Above: (		Compromised le	ess Awarded Diff	<u>erence</u>						
ending Ave.		\$0		\$0							
C/C Difference	_	\$0	_	\$287,571							
(e-i) + (e-ii)		\$0		\$287,571							
Total		\$0		\$221,209							
-ii) x (e-iii)								0004 000			
otal of (e-iv)								\$221,209			
alculation of Im	pact of Adjustm	<u>ent</u> varded			-	ending			To	tal	
					P	HILLING.			In	150	
			A				A				
'ermanent	Count #3	Amount \$28	Average \$9		Count # 0.2308	Amount \$0	Average \$0		Count # 3.2308	Amount \$28	Av

f. Calculation of Im	pact of Adjusti	ment_										
	,	Awarded		Pending				Total				
	Count	Amount	Average		Count	Amount	Average	Count	Amount	Average		
(i) Permanent	#3	\$28	\$9	# (	0.2308	\$0	\$0	# 3.2308	\$28	\$9		
(ii) Comm./Comp.	# 10	\$2,875,804	\$287,580	# (	0.7692	\$221,209	\$287,571	# 10.7692	\$3,097,012	\$287,580		
(iii) Total	# 13	\$2,875,831	\$221,218	# *	1.0000	\$221,209	\$221,209	# 14.0000	\$3,097,040	\$221,217		
(iv) Average Severi	ty before Adju	stment								\$205,417		
(v) Impact										\$15,801		

#### Exhibit VII-E-e Page 1 <u>Underground Antrhacite</u>

#### Federal Excess After Social Security Offset

# Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awa Permane		Commu Compro		Total Awarded- Permanent plus Commuted/Comp.	Pending, Permanent I			Total Claims	
		1) Amount	Count		(3) = (1) + (2) Count Amount	(4) Count	Amount	Count	(5) Amount	
- November										
a. Numbers and A (i) List	mounts 1	23	-	-		-	-			
	1	-	=	=		-	-			
	1	26,060	-	-		-	-			
	1	7	-	-		-	-			
	1	43,295	- 1	214,005		-	-			
	-	-	1	449,973		-	-			
	-	-	1	394,759		-	-			
	-	-	-	-		-	-			
	-	-	-	-		-	-			
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(i) Total	#6	\$69,386	#3	\$1,058,737	#9 \$1,128,123	# 0	\$0	#9	\$1,128,123	
(ii) Average		\$11,564		\$352,912	\$125,347		\$0		\$125,347	
b. Percentage of A		mmuted/Compro		tal Awarded						
(i) Number	#6		#3		#9					
(ii) Percentage	66.6667%	andad Damasaa	33.3333%		100%					
c. Difference Betw (i) Average	een Average A	\$11,564	ent Claim and Av	verage Commute \$352,912	d/Compromised Claim					
(ii) Difference (Col.	2 minus Col. 1			ψ552,512	\$341,348					
d. Pending claims			ed/Comp using	Awarded Mix	***************************************					
(i) Awarded Mix	66.6667%		33.3333%							
(ii) Number	# 0.0000		# 0.0000			# 0				
e. Pending Averag	e from Above:		Compromised le		erence					
(i) Pending Ave.		\$0 \$0		\$0 \$241 249						
(ii) C/C Difference (iii) (e-i) + (e-ii)	-	\$0 \$0	-	\$341,348 \$341,348						
(iii) (e-i) + (e-ii) (iv) Total		\$0 \$0		\$341,340 \$0						
(d-ii) x (e-iii)		ΨΟ		ΨΟ						
(v) Total of (e-iv)							\$0			
f. Calculation of In							*			
		warded			Pending				otal	
	Count	Amount	Average		Count Amount	Average		Count	Amount	Average
(i) Permanent	#6 #3	\$69,386 \$1,058,737	\$11,564 \$352,912		# 0.0000 \$0 # 0.0000 \$0	\$0 \$0		# 6.0000 # 3.0000	\$69,386 \$1,058,737	\$11,564 \$352,912
(ii) Comm./Comp. (iii) Total	# 3 # 9	\$1,058,737	\$352,912 \$125,347		# 0.0000 \$0 # 0.0000 \$0	\$0 \$0		# 9.0000	\$1,058,737	\$352,912 \$125,347
(iii) Total (iv) Average Sever			ψ120,0 <del>1</del> 1		,, σ.σσσσ ψσ	ΨΟ		# 0.0000	ψ1,120,120	\$125,347

(iv) Average Severity before Adjustment

(v) Impact

\$125,347

\$0

# Federal Excess After Social Security Offset

	Awarde	ed-	Compr	ted and omised-	Total Awarded- Permanent plus	Pendir	ng, on	Olalili S		
	Permanent (1) Count	Amount		ettled 2) Amount	(3) = (1) + (2) Count Amount	Permane (4 Count		Count	Total Claims (5) Amount	
a. Numbers and A										
(i) List	1	-	-	-		-	-			
	-	-	1	206,932 209,135		-	-			
	=	-	1	258,795		=	-			
	-	-	1	223,221 223,352		-	-			
	-	-	1	286,384		-	-			
	1	-	_ 1	203,220		-	-			
	1	-	-	-		-	-			
	1 -	2,985	1	235,701		-	-			
	- 1	-	1	100,817		=	-			
	-	-	1	304,405		-	-			
	- 1	- 0.007	1	238,657		-	-			
	-	2,907	1	443,126		-	-			
	÷	-	1	264,194		-	-			
	=	-	1	471,478 325,510		-	-			
	-	-	1	266,584 531,122		-	-			
	-	-	1	415,913		-	-			
	-	-	1	305,635 182,169		-	-			
	=	-	1	314,183		-	-			
	-	-	1	331,075 240,573		-	-			
	-	-	1	690,759		-	-			
	=	-	1	361,488 101,082		-	-			
	-	-	1	536,780		-	-			
	-	-	1	208,120 391,258		=	-			
	-	-	1	260,591		-	-			
	-	-	1	475,920 170,372		-	-			
	-	-	1	249,797		-	-			
	-	-	1	157,166 215,893		-	-			
	-	-	1	263,047		-	-			
	=	-	1	321,552 133,496		-	-			
	-	-	1	106,460		-	-			
	-	-	_ 1	93,335		- 1	-			
	=	-	1	243,712		- '	-			
	=	-	1	156,229		1	-			
	-	-	1	307,520		=	-			
	- 1	-	1	362,086		-	-			
	-	-	1	45,103		-	-			
	-	-	1	101,093 329,346		-	-			
	-	-	1	270,540		-	- 0.457			
	-	-	-	-		1	3,157			
	-	-		-		1	4,272			
	-	-	1	322,345		-	-			
(i) Total	#7	\$5,892	# 49	\$13,457,269	# 56 \$13,463,162	# 5	\$7,428	# 61	\$13,470,590	
(ii) Average b. Percentage of A	warded and Com	\$842 muted/Compre	mised within To	\$274,638	\$240,414		\$1,486		\$220,829	
(i) Number	# 7		# 49		# 56					
(ii) Percentage	12.5000%		87.5000%		100%					
	een Average Awa		ent Claim and A		d/Compromised Claim					
(i) Average (ii) Difference (Col	2 minus Col 1)	\$842		\$274,638	\$273,796					
d. Pending claims		d and Commut	ed/Comp using	Awarded Mix	Ų210,100					
(i) Awarded Mix	12.5000%		87.5000%							
(ii) Number	# 0.6250		# 4.3750			# 5				
e. Pending Average (i) Pending Ave.	ge from Above: C	ommuted and \$1,486	Compromised I	ess Awarded Diff \$1,486	erence					
(ii) C/C Difference		\$0		\$273,796						
(iii) (e-i) + (e-ii)		\$1,486	•	\$275,282						
(iv) Total		\$929		\$1,204,359						
(d-ii) x (e-iii) (v) Total of (e-iv)							\$1,205,287			
(v) Total of (e-iv)  f. Calculation of In	npact of Adjustme	ent .					ψ1,200,201			
		arded			Pending				otal	
	Count	Amount	Average		Count Amount	Average		Count	Amount	Average
(i) Permanent	#7 #40 \$	\$5,892 13.457.260	\$842 \$274.638		# 0.6250 \$929 # 4.3750 \$1.204.350	\$1,486 \$275,282		# 7.6250 # 53.3750	\$6,821 \$14,661,628	\$895 \$274 601
(ii) Comm./Comp. (iii) Total		13,457,269 13,463,162	\$274,638 \$240,414		# 4.3750 \$1,204,359 # 5.0000 \$1,205,287	\$275,282 \$241,057		# 53.3750 # 61.0000	\$14,661,628 \$14,668,449	\$274,691 \$240,466
(iv) Average Sever						,==:			. ,	\$220,829
(v) Impact										\$19,637

#### Exhibit VII-E-e Page 3 Surface Anthracite

# Federal Excess After Social Security Offset

#### Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awar Permane			ted and omised- ettled	Perma	Awarded- nent plus ted/Comp.	Pending, Permanent E			Total Claims	
	Count (1			2) Amount		(1) + (2) Amount	(4) Count	Amount	Count	(5) Amount	
a. Numbers and A	mounts_										
(i) List	1	-	- 1	- 79,401			-	-			
	1	12,471	- '	-			-	-			
	1	21 -	-	-			-	-			
	- 1	-	1 -	301,941			-	-			
	1	-	- 4	-			-	-			
	1	-	- 1	141,947 -			-	-			
	1 1	-	-	-			-	-			
	1	- 44,678	-	-			-	-			
	-	44,070	1	267,334			-	-			
	1	-	-	-			=	-			
	1	-	- 1	- 122,471			=	-			
	1	0	- '	-			-	-			
	1	2	-	-			-	-			
	1	-	-	-			-	-			
	1	0	-	-			=	-			
	- 1 -	3,263	1	231,414			-	-			
	1	108,114	- 1	- 270,919			-	-			
	1	-	- '	-			=	-			
	- 1 -	25	1	102,016			-	-			
	-	-	1	173,638 102,729			-	-			
	-	-	1	156,103			-	-			
	-	-	1 1	103,264 228,030			-	-			
	-	-	-	-			-	-			
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	-	-	-	-			=	-			
	-	-	-	-			-	-			
	-	-	-	-			-	-			
(i) Total	# 24	\$168,574 \$7,024	# 13	\$2,281,208 \$175,478	# 37	\$2,449,782 \$66,210	# 0	\$0 \$0	# 37	\$2,449,782 \$66,210	
(ii) Average b. Percentage of A	warded and Co		mised within To			\$00,Z10		ψU		φ00,210	
(i) Number	# 24		# 13		# 37						
(ii) Percentage c. Difference Betw	64.8649% reen Average A	warded Permane	35.1351% ent Claim and A	verage Commute	d/Compromis	ed Claim					
(i) Average	oon word go ve	\$7,024	THE CHAINT GITTAT	\$175,478	ar Compronie						
(ii) Difference (Col			od/Com= ··=!·	Awardad Min		\$168,454					
d. Pending claims (i) Awarded Mix	64.8649%	ieu anu Commute	35.1351%	Awarded WIX							
(ii) Number	# 0.0000		# 0.0000				# 0				
e. Pending Average (i) Pending Ave.	ge from Above:	Commuted and (	Compromised le	ess Awarded Diff \$0	<u>erence</u>						
(ii) C/C Difference		\$0		\$168,454							
(iii) (e-i) + (e-ii)	_	\$0	-	\$168,454							
(iv) Total (d-ii) x (e-iii)		\$0		\$0							
(v) Total of (e-iv)								\$0			
f. Calculation of In						Donding				atal .	
	Count	warded Amount	Average		Count	Pending Amount	Average		Count	otal Amount	Average
(i) Permanent	# 24	\$168,574	\$7,024		# 0.0000	\$0	\$0		# 24.0000	\$168,574	\$7,024
(ii) Comm./Comp.	# 13 # 37	\$2,281,208 \$2,449,782	\$175,478 \$66,210		# 0.0000 # 0.0000	\$0 \$0	\$0 \$0		# 13.0000 # 37.0000	\$2,281,208 \$2,449,782	\$175,478 \$66,210
(iii) Total (iv) Average Sever			\$66,210		# 0.0000	ÞU	ΦU		# 37.0000	\$2,449,782	\$66,210 \$66,210

Source: Exhibit IX-A

(iv) Average Severity before Adjustment

(v) Impact

\$66,210

\$0

#### Exhibit VII-E-e Page 4 <u>Surface Bituminous</u>

#### Federal Excess After Social Security Offset

#### Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awar Permane			ted and omised- ettled	Perma	warded- nent plus ed/Comp.	Pending, o			Total Claims	
•	(1 Count			2) Amount		1) + (2) Amount	(4) Count	Amount	Count	(5) Amount	
a. Numbers and An											
(i) List	1	-	-	-			-	-			
	1	36,616		-			=	-			
	-	-	1	515,705 94,710			-	-			
	-	-	1	301,936			=	-			
	1	50,622	- 1	258,177			-	-			
	-	-	1	303,496			-	-			
	-	-	1	224,337			-	-			
	-	-	1	366,523 340,941			=	-			
	-	-	1	94,314			-	-			
	-	-	1	332,350			-	-			
	-	-	1	93,772 289,784			-	-			
	1	-	- '	-			-	-			
	-	-	1	187,230			-	-			
	-	-	1	40,772 310,035			-	-			
	-	-	1	161,126			=	-			
	-	-	1	339,849			-	-			
	-	-	-	-			-	-			
	-	-	=	-			-	-			
	=	-	=	-			=	-			
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	-	-	-	-			-	-			
(i) Total	# 4	\$87,238	# 17	\$4,255,059	# 21	\$4,342,297	# 0	\$0	# 21	\$4,342,297	
(ii) Average		\$21,810		\$250,298		\$206,776		\$0		\$206,776	
b. Percentage of Av		mmuted/Compro		otal Awarded							
(i) Number	# 4		# 17		# 21						
(ii) Percentage	19.0476%		80.9524%		100%						
c. Difference Between	een Average Av		nt Claim and A		d/Compromise	ed Claim					
(i) Average (ii) Difference (Col.	2 minus Cal 1	\$21,810		\$250,298		\$228,488					
d. Pending claims			ed/Comp using	Awarded Mix		ψ220, <del>1</del> 00					
(i) Awarded Mix	19.0476%		80.9524%								
(ii) Number	# 0.0000		# 0.0000				# 0				
e. Pending Average	e from Above:		Compromised le		erence		· · · · · · · · · · · · · · · · · · ·				
(i) Pending Ave.		\$0		\$0							
(ii) C/C Difference	_	\$0	-	\$228,488							
(iii) (e-i) + (e-ii)		\$0 \$0		\$228,488							
(iv) Total		\$0		\$0							
								\$0			
(d-ii) x (e-iii)								φυ			
(v) Total of (e-iv)	npact of Adjustm	ent									
		<u>ient</u> warded				Pending			To	otal	
(v) Total of (e-iv)		warded Amount	Average		Count	Pending Amount	Average		Count	Amount	Average
(v) Total of (e-iv)  f. Calculation of Im  (i) Permanent	Count # 4	Amount \$87,238	\$21,810		Count # 0.0000	Amount \$0	\$0		Count # 4.0000	Amount \$87,238	\$21,810
(v) Total of (e-iv)  f. Calculation of Im	Count	warded Amount			Count	Amount			Count	Amount	

Source: Exhibit IX-A

(iv) Average Severity before Adjustment

(v) Impact

\$206,776

Exhibit VII-E-e Page 5 Other Classes

#### Federal Excess After Social Security Offset

# Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

		rded- ent Basis	Commu Compre As S		Perma	Awarded- inent plus ted/Comp.	Pendinç Permanen			Total Claims	
•		1) Amount		2) Amount		(1) + (2) Amount	(4) Count	Amount	Count	(5) Amount	
a. Numbers and Ar	mounto										
(i) List	1	-	-	-			-	-			
	-	-	1	337,600 370,725			-	-			
	-	-	1	375,056			-	-			
	1	52,155	- 4	203,851			-	-			
	-	-	1	124,172			-	-			
	- 1	-	1	726,353			-	-			
	- '	-	1	55,864			-	-			
	-	=	1	270,675 349,810			=	-			
	-	-	1	171,193			-	-			
	-	-	-	-			1	-			
	-	-	-	-			-	-			
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	".0	0=0.4==	" 10	** *** ***	" 10	** ***		**		** ***	
(i) Total (ii) Average	# 3	\$52,155 \$17,385	# 10	\$2,985,299 \$298,530	#13	\$3,037,454 \$233,650	# 1	\$0 \$0	# 14	\$3,037,454 \$216,961	
b. Percentage of A	warded and Co		mised within To			<b>\$200,000</b>		Ψ.		42.0,001	
(i) Number	#3		# 10		# 13						
(ii) Percentage c. Difference Between	23.0769%	1.15	76.9231%		100%						
(i) Average	een Average A	\$17,385	nt Claim and A	\$298,530	a/Compromis	ed Claim					
(ii) Difference (Col.	2 minus Col. 1			,,		\$281,145					
d. Pending claims		ded and Commute		Awarded Mix							
(i) Awarded Mix (ii) Number	23.0769% # 0.2308		76.9231% # 0.7692				# 1				
e. Pending Averag		Commuted and		ess Awarded Diff	erence		# 1				
(i) Pending Ave.		\$0		\$0							
(ii) C/C Difference	_	\$0	-	\$281,145							
(iii) (e-i) + (e-ii) (iv) Total		\$0 \$0		\$281,145 \$216,265							
(d-ii) x (e-iii)		Ψυ		ψ <u>ε</u> 10,200							
(v) Total of (e-iv)								\$216,265			
f. Calculation of Im						Danding					
	Count	Awarded Amount	Average		Count	Pending Amount	Average		Count	otal Amount	Average
(i) Permanent	#3	\$52,155	\$17,385		# 0.2308		Average \$0		# 3.2308	\$52,155	\$16,143
(ii) Comm./Comp.	# 10	\$2,985,299	\$298,530		# 0.7692	\$216,265	\$281,145		# 10.7692	\$3,201,564	\$297,288
(iii) Total	# 13	\$3,037,454	\$233,650		# 1.0000	\$216,265	\$216,265		# 14.0000	\$3,253,719	\$232,409
(iv) Average Severi	ııy petore Adju	sument									\$216,961 \$15,448

(v) Impact

\$15,448

#### Exhibit VII-E-f Page 1 <u>Underground Antrhacite</u>

# Federal Excess After Social Security and Private Pension Offsets

	Award Permanen		Commut Compro As Se	mised-	Permar	warded- nent plus ed/Comp.	Pending, o Permanent B	n asis		Total Claims
	(1) Count	Amount	(2 Count			1) + (2) Amount	(4) Count	Amount	Count	(5) Amount
a. Numbers and A	mounts									
(i) List	1	4,618	-	-			-	-		
	1 1	0 168,996	-	-			-	-		
	1	217	-	-			-	-		
	1 1	2,176 185,278	-	-			-	-		
	- '	-	1	276,746			-	-		
	-	-	1	449,973			-	-		
	-	-	1 -	394,759			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
	-	-	-	-			-	-		
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	-	-	-	-			-	-		
	-	-	-	-			-	-		
(i) Total (ii) Average	#6	\$361,286 \$60,214	#3	\$1,121,479 \$373,826	#9	\$1,482,765 \$164,752	# 0	\$0 \$0	#9	\$1,482,765 \$164,752
b. Percentage of A		muted/Compro		al Awarded						
(i) Number	# 6		# 3		# 9					
(ii) Percentage	66.6667%	-1-1D	33.3333%	0	100%	101				
c. Difference Betw	een Average Awa	\$60,214	nt Claim and Av	\$373,826	Compromise	d Claim				
(i) Average (ii) Difference (Col.	. 2 minus Col. 1)	ψυυ,Δ 14		ψ010,020		\$313,612				
d. Pending claims		d and Commute	ed/Comp using A	Awarded Mix						
(i) Awarded Mix	66.6667%		33.3333%							
(ii) Number	# 0.0000		# 0.0000				# 0			
e. Pending Average	e from Above: C		Compromised le		rence					
(i) Pending Ave.		\$0		\$0						
(ii) C/C Difference	_	\$0	_	\$313,612						
(iii) (e-i) + (e-ii)		\$0 \$0		\$313,612						
(iv) Total (d-ii) x (e-iii)		\$0		\$0						
(v) Total of (e-iv)								\$0		
f. Calculation of In	pact of Adjustme	<u>nt</u>						¥*		
	Aw	arded				Pending			To	
	Count	Amount	Average	-	Count	Amount	Average	-	Count	Amount Avera

f. Calculation of Im	pact of Adjusti	ment										
	,	Awarded			Pe	ending		Total				
	Count	Amount	Average		Count	Amount	Average	Count	Amount	Average		
(i) Permanent	#6	\$361,286	\$60,214	#	0.0000	\$0	\$0	# 6.0000	\$361,286	\$60,214		
(ii) Comm./Comp.	#3	\$1,121,479	\$373,826	#	0.0000	\$0	\$0	# 3.0000	\$1,121,479	\$373,826		
(iii) Total	#9	\$1,482,765	\$164,752	#	0.0000	\$0	\$0	# 9.0000	\$1,482,765	\$164,752		
(iv) Average Sever	ity before Adju	stment								\$164,752		
(v) Impact										\$0		

#### Exhibit VII-E-f Page 2 <u>Underground Bituminous</u>

# Federal Excess After Social Security and Private Pension Offsets

	Awar		Commu	omised-	Total Awarded- Permanent plus	Pendir	ng, on		T	
	Permane (1 Count			ettled 2) Amount	(3) = (1) + (2) Count Amount	Permane (4 Count		Count	Total Claims (5) Amount	
a. Numbers and A	mounte									
(i) List	1	-	-	-		-	-			
	-	-	1	306,256		-	-			
	-	-	1	311,645 258,795		-	-			
	=	=	1	274,055		=	=			
	-	-	1	237,099 305,643		-	-			
	-	-	1	305,643		-	-			
	1	3	-	-		-	-			
	1	44 141,494	-	-		-	-			
	- '	-	1	235,701		-	-			
		-	1	110,099		-	-			
	1	0	1	304,521		-	-			
	-	-	1	253,311		-	-			
	1	95,577		-		=	=			
	-	-	1	443,126 342,979		-	-			
	-	-	1	471,478		-	-			
	-	-	1	325,641 268,158		-	-			
	-	-	1	531,122		-	-			
	-	-	1	415,913		-	-			
	-	-	1	305,696 254,990		-	-			
	-	-	1	314,183		-	-			
	-	-	1	331,075		-	-			
	-	-	1	297,748 690,759		-	-			
	-	-	1	361,488		-	-			
	-	-	1	156,283		-	-			
	-	-	1	536,780 277,344		-	-			
	-	-	1	391,258		-	-			
	-	-	1	349,239 475,920		-	-			
	-	-	1	247,196		-	-			
	-	-	1	309,981		-	-			
	-	-	1	157,166 284,224		-	-			
	-	-	1	316,286		-	-			
	-	-	1	327,333		-	-			
	-	-	1	133,496 150,733		-	-			
	=	=	1	155,719		=	=			
	-	-	- 1	261,370		1	0			
	_	-	1	156,229		-	_			
	-	-	-	-		1	-			
	1	- 0	1	313,405		-	-			
	- '	-	1	362,086		-	-			
	-	-	1	45,103		-	-			
	-	-	1	101,093 333,003		-				
	-	-	1	318,113		-	-			
	-	-	-	-		1	152,684 2,484			
	-	-	-	-		1	101,491			
	-	-	1	327,678		-	-			
(i) Total	#7	\$237,119	# 49	\$14,740,075	# 56 \$14,977,194	# 5	\$256,659	# 61	\$15,233,853	
(ii) Average	" "	\$33,874	<i>II</i> -70	\$300,818	\$267,450	,, 3	\$51,332	" 01	\$249,735	
b. Percentage of A							*			
(i) Number	#7		# 49		# 56					
(ii) Percentage	12.5000%		87.5000%		100%					
	een Average A	warded Permane \$33,874	ent Claim and Av		d/Compromised Claim					
(i) Average (ii) Difference (Col	2 minus Col 1			\$300,818	\$266,944					
d. Pending claims			ed/Comp using	Awarded Mix	\$200,011					
(i) Awarded Mix	12.5000%		87.5000%							
(ii) Number	# 0.6250		# 4.3750			# 5				
e. Pending Average	ge from Above:		Compromised le		erence					
(i) Pending Ave.		\$51,332		\$51,332						
(ii) C/C Difference	-	\$0 \$51 332	-	\$266,944 \$318,276						
(iii) (e-i) + (e-ii) (iv) Total		\$51,332 \$32,082		\$318,276 \$1,392,456						
(d-ii) x (e-iii)		ψυΖ,00Ζ		ψ1,002, <del>1</del> 00						
(v) Total of (e-iv)							\$1,424,538			
f. Calculation of Ir										
		warded			Pending				otal	
	Count	Amount	Average		Count Amount	Average		Count	Amount	Average
(i) Permanent	#7 #40	\$237,119	\$33,874		# 0.6250 \$32,082 # 4.3750 \$1.302.456	\$51,332 \$319,376		# 7.6250 # 52.2750	\$269,201 \$16,132,531	\$35,305
(ii) Comm./Comp. (iii) Total		\$14,740,075 \$14,977,194	\$300,818 \$267,450		# 4.3750 \$1,392,456 # 5.0000 \$1,424,538	\$318,276 \$284,908		# 53.3750 # 61.0000	\$16,132,531 \$16,401,732	\$302,249 \$268,881
(iv) Average Seve			ψ <u>ε</u> υ1, <del>1</del> 00		0.0000 ψ1,727,000	ψ <b>2</b> 0 1,000		# 01.0000	ψ10,701,102	\$249,735
(v) Impact	,									\$19,146

#### Exhibit VII-E-f Page 3 Surface Anthracite

# Federal Excess After Social Security and Private Pension Offsets

	Awarded- Permanent Basis		Commuted and Compromised- As Settled		Perma Commu	warded- nent plus ted/Comp.	Pending, Permanent I			Total Claims	
	(1 Count	) Amount	(2 Count	) Amount	(3) = Count	(1) + (2) Amount	(4) Count	Amount	Count	(5) Amount	
a. Numbers and A (i) List	mounts 1	0	-	-			-	-			
(7	-	-	1	79,401			-	-			
	1 1	18,773 5,013	-	-			-	-			
	1		-	-			-	-			
		-	1	323,153			-	-			
	1 1	-	-	-			-	-			
	=	-	1	141,947			-	-			
	1 1	9	-	-			-	-			
	1	- 0	-	-			-	-			
	1		-	-			-	-			
	1	44,678	- 1	267,334			-	-			
	1	0	- '	-			-	-			
	1	-	-	-			-	-			
	_ 1 	39	1	122,471			-	-			
	1	343	- 1	-			-				
	1 1	1,233	-	-			-	-			
	1	2	-	-			-	-			
	1	1	-	-			-	-			
	1 1	1,153 67,170	-	-			-	-			
	=	-	1	244,784			-	-			
	1	207,058		-			-	-			
	1	- 0	_ 1 	311,198 -			-	-			
	1	3,633	-	-			-	-			
	-	-	1 1	157,182 253,043			-	-			
	-	-	1	158,154			-	-			
	-	-	1	185,648			-	-			
	-	-	1	149,955 331,144			-	-			
	-	-	- '	-			-	-			
	-	=	-	-			-	-			
	-	-	-	-			-	-			
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	-	-	-	-			-	-			
	-	-	=	-			-	-			
	-	-	-	-			-	-			
(i) Total	# 24	\$349,105	# 13	\$2,725,415	# 37	\$3,074,520	# 0	\$0	# 37	\$3,074,520	
(ii) Average		\$14,546		\$209,647		\$83,095		\$0		\$83,095	
b. Percentage of A		mmuted/Compro		tal Awarded			-				
(i) Number	# 24		# 13		# 37						
(ii) Percentage	64.8649%		35.1351%		100%						
c. Difference Betw	een Average Av		nt Claim and Av		d/Compromis	ed Claim					
(i) Average (ii) Difference (Col	2 minus Col. 1	\$14,546		\$209,647		\$195,101					
d. Pending claims			ed/Comp using A	Awarded Mix		ψ100,101					
(i) Awarded Mix	64.8649%		35.1351%								
(ii) Number	# 0.0000		# 0.0000				# 0				
e. Pending Average	ge from Above:		Compromised le		erence		-				
(i) Pending Ave.		\$0		\$0							
(ii) C/C Difference	_	\$0	_	\$195,101							
(iii) (e-i) + (e-ii)		\$0 \$0		\$195,101 ¢o							
(iv) Total		\$0		\$0							
(d-ii) x (e-iii) (v) Total of (e-iv)								\$0			
f. Calculation of Ir	npact of Adiustm	nent_						ΨΟ			
		warded				Pending			To	otal	
	Count	Amount	Average		Count	Amount	Average	-	Count	Amount	Average
(i) Permanent	# 24	\$349,105	\$14,546		# 0.0000	\$0	\$0		# 24.0000	\$349,105	\$14,546

(v) Total of (c-1v)							ΨΟ		
f. Calculation of Impa	act of Adjustr	ment							
	Awarded			Pe	ending		Total		
_	Count	Amount	Average	Count	Amount	Average	Count	Amount	Average
(i) Permanent	# 24	\$349,105	\$14,546	# 0.0000	\$0	\$0	# 24.0000	\$349,105	\$14,546
(ii) Comm./Comp.	# 13	\$2,725,415	\$209,647	# 0.0000	\$0	\$0	# 13.0000	\$2,725,415	\$209,647
(iii) Total	# 37	\$3,074,520	\$83,095	# 0.0000	\$0	\$0	# 37.0000	\$3,074,520	\$83,095
(iv) Average Severity	y before Adju	stment							\$83,095
(v) Impact									\$0

#### Exhibit VII-E-f Page 4 Surface Bituminous

#### Federal Excess After Social Security and Private Pension Offsets

#### Adjustment to Severity for Possible Commutation/Compromise of Pending Claims

	Awar Permane	nt Basis	Commu Compro As Se	omised- ettled	Permar Commute	warded- nent plus ed/Comp.	Pending, Permanent I			Total Claims	
	(1 Count	) Amount	(2 Count	2) Amount	(3) = ( Count	1) + (2) Amount	(4) Count	Amount	Count	(5) Amount	
a. Numbers and Ar											
(i) List	1 1	1 171,516	-	-			-	-			
	- '	- 171,510	1	515,705			=	-			
	-	-	1	158,310			=	-			
	- 1	194,008	1	324,687			-	-			
	- '	-	1	258,177			-	-			
	-	-	1	310,237			-	-			
	-	-	1	304,872 366,523			-	-			
	-	-	1	352,503			-	-			
	-	-	1	181,976 332,350			-	-			
	-	-	1	156,219			-	-			
		-	1	289,784			-	-			
	1	-	- 1	276,056			-	-			
	-	-	1	40,772			-	-			
	-	-	1	327,281			-	-			
	-	-	1	161,126 346,725			-	-			
	-	=	- '	-			=	-			
	-	-	-	-			-	-			
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	-	-	-	-			-	-			
(i) Total	# 4	\$365,525	# 17	\$4,703,304	# 21	\$5,068,829	# 0	\$0	# 21	\$5,068,829	
(ii) Average		\$91,381		\$276,665		\$241,373		\$0		\$241,373	
b. Percentage of A	warded and Co #4	mmuted/Compro	mised within 10 #17	tal Awarded	# 21						
(i) Number (ii) Percentage	# 4 19.0476%		# 17 80.9524%		100%						
c. Difference Between		warded Permane		verage Commute		ed Claim					
(i) Average		\$91,381		\$276,665							
(ii) Difference (Col.						\$185,284					
d. Pending claims		led and Commut		Awarded Mix				·			
(i) Awarded Mix	19.0476%		80.9524%				# 0				
(ii) Number	# 0.0000	Committed	# 0.0000	oo Award-d Diff	oronoo		# 0				
<ul> <li>e. Pending Averag</li> <li>(i) Pending Ave.</li> </ul>	ie irom Above:	Commuted and \$0	Compromised le	ess Awarded Diffe \$0	erence						
(ii) C/C Difference		\$0 \$0		\$185,284							
(iii) (e-i) + (e-ii)	_	\$0	-	\$185,284							
(iv) Total		\$0		\$0							
(d-ii) x (e-iii)											
(v) Total of (e-iv)								\$0			
f. Calculation of Im						Dandina			-	.tal	
	Count	warded Amount	Average		Count	Pending Amount	Average	•	Count	atal Amount	Averag
(i) Permanent	# 4	\$365,525	\$91,381		# 0.0000	\$0	Average \$0		# 4.0000	\$365,525	\$91,381
(ii) Comm./Comp.	# 17	\$4.703.304	\$276.665		# 0.0000	\$0 \$0	\$0 \$0		# 17.0000	\$4.703.304	\$276.665

(ii) Comm./Comp. # 17 \$4,703,304 \$276,665 # 0.0000 # 17.0000 \$4,703,304 \$276,665 (iii) Total #21 \$5,068,829 \$241,373 # 0.0000 \$0 \$0 # 21.0000 \$5,068,829 \$241,373 (iv) Average Severity before Adjustment \$241,373 \$0

(v) Impact

Source: Exhibit IX-A

#### Exhibit VII-E-f Page 5 Other Classes

# Federal Excess After Social Security and Private Pension Offsets

	Permane	Awarded- Commanent Basis As		Commuted and Compromised- As Settled		Total Awarded- Permanent plus Commuted/Comp. (3) = (1) + (2)		on Basis		Total Claims	
	(1 Count	) Amount	(2 Count	?) Amount	(3) = ( Count	1) + (2) Amount	(4) Count	Amount	Count	(5) Amount	
a. Numbers and An	mounts										
(i) List	1	172	- 4	-			-	-			
	-	-	1	342,316 370,725			-	-			
	- 1	142,844	1	375,056			-	-			
	- '	142,044	1	203,851			=	-			
	-	-	1 1	168,700 726,353			÷	-			
	1	3	- '	- 120,333			=	-			
	-	-	1 1	86,517 270,675			÷	-			
	-	-	1	352,265			-	-			
	-	-	1	211,620			- 1	- 4			
	-	-	-	-			- '	-			
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	=	=	=	-			=	-			
(i) Total	#3	\$143,019	# 10	\$3,108,078	# 13	\$3,251,097	# 1	\$4	# 14	\$3,251,101	
(ii) Average		\$47,673		\$310,808		\$250,084		\$4		\$232,222	
b. Percentage of Av (i) Number	warded and Cor #3	mmuted/Compror	mised within To # 10	tal Awarded	# 13						
(ii) Percentage	# 3 23.0769%		76.9231%		100%						
c. Difference Between						ed Claim					
(i) Average		\$47,673		\$310,808		0000 105					
(ii) Difference (Col. d. Pending claims S			ad/Compusies	Awarded Miv		\$263,135					
(i) Awarded Mix	23.0769%	ou anu oumillet	76.9231%	waiucu IVIIX							
(ii) Number	# 0.2308		# 0.7692				#1				
e. Pending Average	e from Above:		Compromised le		erence						
(i) Pending Ave.		\$4 \$0		\$4							
(ii) C/C Difference (iii) (e-i) + (e-ii)	_	\$0 \$4	-	\$263,135 \$263,139							
(iv) Total		\$ <del>1</del>		\$202,415							
(d-ii) x (e-iii)											
(v) Total of (e-iv)								\$202,416			
f. Calculation of Im		<u>ent</u> warded				Pending			Tr	otal	
	Count	Amount	Average		Count	Amount	Average		Count	Amount	Average
(i) Permanent	#3	\$143,019	\$47,673		# 0.2308	\$1	\$4		# 3.2308	\$143,020	\$44,268

Total			
/erage			
4,268			
7,403			
6,679			
2,222			
4,458			
4 7 6 2			

a)	Average	Weekly	Wage	(Smoothed)	1:

<ul> <li>a) Average Weekly Wage (Sr</li> </ul>	<u>noothed):</u>					
		U/G	U/G	Surface	Surface	Wage Level
	<u>Year</u>	<u>Anthracite</u>	<u>Bituminous</u>	<u>Anthracite</u>	<u>Bituminous</u>	<u>Decrease</u>
Pre Act 57:	1990	\$515.82	682.13	483.48	517.18	5.1817%
	1991	532.25	706.01	497.65	534.10	5.1817%
	1992	549.20	730.72	512.24	551.57	5.1817%
	1993	566.69	756.30	527.26	569.62	5.1817%
	1994	584.74	782.77	542.72	588.26	5.1817%
	1995	603.37	810.18	558.63	607.51	5.1817%
Mixed Pre & Post Act 57:	1996	622.58	838.54	575.01	627.38	3.3220% ***
Post Act 57:	1997	642.41 *	867.89 *	591.87 *	647.91	0.0%
	1998	662.87 *	898.27 *	609.22 *	669.11	0.0%
	1999	683.98 *	929.72 *	627.08 *	691.00	0.0%
	2000	705.77 *	962.26 *	645.46 *	713.61	0.0%
	2001	728.25 *	995.95 *	664.39 *	736.96	0.0%
	2002	751.44 *	1,030.81 *	683.86 *	761.08	0.0%
	2003	775.37 *	1,066.90 *	703.91 *	785.98	0.0%
	2004	800.07 *	1,104.25 *	724.55 *	811.69	0.0%
	2005	825.55 *	1,142.90 *	745.79 *	838.25	0.0%
	2006	851.84 *	1,182.91 *	767.66 *	865.68	0.0%
	2007	878.97 *	1,224.32 *	790.16 *	894.00	0.0%
	2008	906.96 *	1,267.18 *	813.33 *	923.26	0.0%
	2009	935.85 *	1,311.54 *	837.18 *	953.47	0.0%
	2010	965.66 *	1,357.45 *	861.72 *	984.66	0.0%
	2011	996.41 *	1,404.97 *	886.98 *	1,016.88	0.0%
		1,028.15 *	1,454.15 *	912.99 *	1,050.15	0.0%
	2013	1,060.89 *	1,505.06 *	939.75 *	1,084.51	0.0%
	2014	1,094.68 *	1,557.74 *	967.30 *	1,120.00	0.0%
		1,129.54 *	1,612.27 *	995.66 *	1,156.64	0.0%
	2016	1,165.52 *	1,668.71 *	1,024.85 *	1,194.49	0.0%
	2017	1,202.64 *	1,727.13 *	1,054.90 *	1,233.57	0.0%
	<u>2018</u>	1,240.94 *	1,787.59 *	1,085.83 *	1,273.93	0.0%
	Average:					1.1866%
Pro	sincted to:					
	ojected to:					
Pre Act 57:	4/1/2021	1,282.57	1,791.91	1,176.42	1,305.64	
		1,282.57 1,216.11 *	1,791.91 1,699.06 *	1,176.42 1,115.46 *	1,305.64 1,237.99	
Pre Act 57: Post Act 57:	4/1/2021					
Pre Act 57:	4/1/2021					
Pre Act 57: Post Act 57:	4/1/2021					
Pre Act 57: Post Act 57: b) Conversion Calculation:	4/1/2021	1,216.11 *	1,699.06 *	1,115.46 *	1,237.99	Note:
Pre Act 57: Post Act 57: b) Conversion Calculation:	4/1/2021	1,216.11 *	1,699.06 *	1,115.46 *	1,237.99 5.1817%	Note: Pre Act 57 times (1.0 - Factor)
Pre Act 57: Post Act 57: b) Conversion Calculation: Conversion Factor:	4/1/2021 4/1/2021	1,216.11 * 5.1817%	1,699.06 * 5.1817%	1,115.46 * 5.1817%	1,237.99 5.1817% \$594.87	
Pre Act 57: Post Act 57: b) Conversion Calculation: Conversion Factor: Post Act 57:	4/1/2021 4/1/2021	1,216.11 * 5.1817% \$590.32	1,699.06 * 5.1817% \$795.09	1,115.46 * 5.1817% \$545.21	1,237.99 5.1817% \$594.87 614.34	Pre Act 57 times (1.0 - Factor)
Pre Act 57: Post Act 57: b) Conversion Calculation: Conversion Factor:  Post Act 57: Post Act 57:	4/1/2021 4/1/2021 1996 1997	1,216.11 * 5.1817% \$590.32 609.12	1,699.06 * 5.1817% \$795.09 822.92	1,115.46 * 5.1817% \$545.21 561.20	1,237.99 5.1817% \$594.87 614.34 634.44	Pre Act 57 times (1.0 - Factor) Pre Act 57 times (1.0 - Factor)
Pre Act 57: Post Act 57: b) Conversion Calculation: Conversion Factor:  Post Act 57: Post Act 57: Post Act 57:	4/1/2021 4/1/2021 1996 1997 1998	1,216.11 * 5.1817% \$590.32 609.12 628.52	1,699.06 * 5.1817% \$795.09 822.92 851.73	1,115.46 * 5.1817% \$545.21 561.20 577.65	1,237.99 5.1817% \$594.87 614.34 634.44 655.20	Pre Act 57 times (1.0 - Factor) Pre Act 57 times (1.0 - Factor) Pre Act 57 times (1.0 - Factor)
Pre Act 57: Post Act 57:  b) Conversion Calculation: Conversion Factor:  Post Act 57: Post Act 57: Post Act 57: Post Act 57:	4/1/2021 4/1/2021 1996 1997 1998 1999	1,216.11 * 5.1817% \$590.32 609.12 628.52 648.54	1,699.06 * 5.1817% \$795.09 822.92 851.73 881.54	1,115.46 * 5.1817% \$545.21 561.20 577.65 594.59	1,237.99 5.1817% \$594.87 614.34 634.44 655.20 676.64	Pre Act 57 times (1.0 - Factor) Pre Act 57 times (1.0 - Factor) Pre Act 57 times (1.0 - Factor) Pre Act 57 times (1.0 - Factor)
Pre Act 57: Post Act 57: Post Act 57:  b) Conversion Calculation: Conversion Factor:  Post Act 57:	1996 1997 1998 1999 2000	1,216.11 * 5.1817% \$590.32 609.12 628.52 648.54 669.20	1,699.06 * 5.1817% \$795.09 822.92 851.73 881.54 912.40	1,115.46 * 5.1817% \$545.21 561.20 577.65 594.59 612.02	1,237.99 5.1817% \$594.87 614.34 634.44 655.20 676.64 698.78	Pre Act 57 times (1.0 - Factor)
Pre Act 57: Post Act 57:  b) Conversion Calculation: Conversion Factor:  Post Act 57:	1996 1997 1998 1999 2000 2001	5.1817% \$590.32 609.12 628.52 648.54 669.20 690.51	1,699.06 * 5.1817% \$795.09 822.92 851.73 881.54 912.40 944.34	5.1817% \$545.21 561.20 577.65 594.59 612.02 629.96	1,237.99 5.1817% \$594.87 614.34 634.44 655.20 676.64 698.78 721.64	Pre Act 57 times (1.0 - Factor)
Pre Act 57: Post Act 57:  b) Conversion Calculation: Conversion Factor:  Post Act 57:	4/1/2021 4/1/2021 1996 1997 1998 1999 2000 2001 2002	1,216.11* 5.1817% \$590.32 609.12 628.52 648.54 669.20 690.51 712.50	5.1817% \$795.09 822.92 851.73 881.54 912.40 944.34 977.40	5.1817% \$545.21 561.20 577.65 594.59 612.02 629.96 648.43	1,237.99 5.1817% \$594.87 614.34 634.44 655.20 676.64 698.78 721.64 745.25	Pre Act 57 times (1.0 - Factor)
Pre Act 57: Post Act 57:  b) Conversion Calculation: Conversion Factor:  Post Act 57:	1996 1997 1998 1999 2000 2001 2002 2003 2004	1,216.11 * 5.1817% \$590.32 609.12 628.52 648.54 669.20 690.51 712.50 735.19 758.61	1,699.06 * 5.1817% \$795.09 822.92 851.73 881.54 912.40 944.34 977.40 1,011.62 1,047.03	5.1817% \$545.21 561.20 577.65 594.59 612.02 629.96 648.43 667.44	1,237.99 5.1817% \$594.87 614.34 634.44 655.20 676.64 698.78 721.64 745.25 769.63	Pre Act 57 times (1.0 - Factor)
Pre Act 57: Post Act 57: Post Act 57:  b) Conversion Calculation: Conversion Factor:  Post Act 57:	4/1/2021 4/1/2021 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005	5.1817% \$590.32 609.12 628.52 648.54 669.20 690.51 712.50 735.19 758.61 782.77	1,699.06 * 5.1817% \$795.09 822.92 851.73 881.54 912.40 944.34 977.40 1,011.62 1,047.03 1,083.68	5.1817% \$545.21 561.20 577.65 594.59 612.02 629.96 648.43 667.44 687.01 707.15	1,237.99 5.1817% \$594.87 614.34 634.44 655.20 676.64 698.78 721.64 745.25 769.63 794.82	Pre Act 57 times (1.0 - Factor)
Pre Act 57: Post Act 57: Post Act 57:  b) Conversion Calculation: Conversion Factor:  Post Act 57:	4/1/2021 4/1/2021 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006	1,216.11 *  5.1817%  \$590.32 609.12 628.52 648.54 669.20 690.51 712.50 735.19 758.61 782.77 807.70	1,699.06 *  5.1817%  \$795.09  822.92  851.73  881.54  912.40  944.34  977.40  1,011.62  1,047.03  1,083.68  1,121.62	5.1817% \$545.21 \$61.20 577.65 594.59 612.02 629.96 648.43 667.44 687.01 707.15 727.88	1,237.99  5.1817%  \$594.87 614.34 634.44 655.20 676.64 698.78 721.64 745.25 769.63 794.82 820.82	Pre Act 57 times (1.0 - Factor)
Pre Act 57: Post Act 57: Post Act 57:  b) Conversion Calculation: Conversion Factor:  Post Act 57:	1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007	5.1817% \$590.32 609.12 628.52 648.54 669.20 690.51 712.50 735.19 758.61 782.77 807.70 833.43	5.1817% \$795.09 822.92 851.73 881.54 912.40 944.34 977.40 1,011.62 1,047.03 1,083.68 1,121.62 1,160.88	5.1817% \$545.21 \$61.20 577.65 594.59 612.02 629.96 648.43 667.44 687.01 707.15 727.88 749.22	1,237.99  5.1817%  \$594.87 614.34 634.44 655.20 676.64 698.78 721.64 745.25 769.63 794.82 820.82 847.68	Pre Act 57 times (1.0 - Factor)
Pre Act 57: Post Act 57: Post Act 57:  b) Conversion Calculation: Conversion Factor:  Post Act 57:	1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008	5.1817% \$590.32 609.12 628.52 648.54 669.20 690.51 712.50 735.19 758.61 782.77 807.70 833.43 859.97	1,699.06 *  5.1817%  \$795.09  822.92  851.73  881.54  912.40  944.34  977.40  1,011.62  1,047.03  1,083.68  1,121.62  1,160.88  1,201.52	1,115.46 * 5.1817% \$545.21 561.20 577.65 594.59 612.02 629.96 648.43 667.44 687.01 707.15 727.88 749.22 771.19	1,237.99  5.1817%  \$594.87 614.34 634.44 655.20 676.64 698.78 721.64 745.25 769.63 794.82 820.82 847.68 875.42	Pre Act 57 times (1.0 - Factor)
Pre Act 57: Post Act 57: Post Act 57:  b) Conversion Calculation: Conversion Factor:  Post Act 57:	1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009	5.1817% \$590.32 609.12 628.52 648.54 669.20 690.51 712.50 735.19 758.61 782.77 807.70 833.43 859.97 887.36	1,699.06 *  5.1817%  \$795.09  822.92  851.73  881.54  912.40  944.34  977.40  1,011.62  1,047.03  1,083.68  1,121.62  1,160.88  1,201.52  1,243.58	1,115.46 * 5.1817% \$545.21 561.20 577.65 594.59 612.02 629.96 648.43 667.44 687.01 707.15 727.88 749.22 771.19 793.80	1,237.99  5.1817%  \$594.87 614.34 634.44 655.20 676.64 698.78 721.64 745.25 769.63 794.82 820.82 847.68 875.42 904.06	Pre Act 57 times (1.0 - Factor)
Pre Act 57: Post Act 57: Post Act 57:  b) Conversion Calculation: Conversion Factor:  Post Act 57:	1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010	1,216.11 *  5.1817%  \$590.32 609.12 628.52 648.54 669.20 690.51 712.50 735.19 758.61 782.77 807.70 833.43 859.97 887.36 915.62	1,699.06 *  5.1817%  \$795.09  822.92  851.73  881.54  912.40  944.34  977.40  1,011.62  1,047.03  1,083.68  1,121.62  1,160.88  1,201.52  1,243.58  1,287.11	1,115.46 * 5.1817% \$545.21 561.20 577.65 594.59 612.02 629.96 648.43 667.44 687.01 707.15 727.88 749.22 771.19 793.80 817.07	1,237.99  5.1817%  \$594.87 614.34 634.44 655.20 676.64 698.78 721.64 745.25 769.63 794.82 820.82 847.68 875.42 904.06 933.64	Pre Act 57 times (1.0 - Factor)
Pre Act 57: Post Act 57: Post Act 57:  b) Conversion Calculation; Conversion Factor:  Post Act 57:	1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011	1,216.11 *  5.1817%  \$590.32 609.12 628.52 648.54 669.20 690.51 712.50 735.19 758.61 782.77 807.70 833.43 859.97 887.36 915.62 944.78	1,699.06 *  5.1817%  \$795.09  822.92  851.73  881.54  912.40  944.34  977.40  1,011.62  1,047.03  1,083.68  1,121.62  1,160.88  1,201.52  1,243.58  1,287.11  1,332.17	1,115.46 * 5.1817% \$545.21 561.20 577.65 594.59 612.02 629.96 648.43 667.44 687.01 707.15 727.88 749.22 771.19 793.80 817.07 841.02	1,237.99  5.1817%  \$594.87 614.34 634.44 655.20 676.64 698.78 721.64 745.25 769.63 794.82 820.82 847.68 875.42 904.06 933.64 964.19	Pre Act 57 times (1.0 - Factor)
Pre Act 57: Post Act 57: Post Act 57:  b) Conversion Calculation: Conversion Factor:  Post Act 57:	1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012	5.1817% \$590.32 609.12 628.52 648.54 669.20 690.51 712.50 735.19 758.61 782.77 807.70 833.43 859.97 87.36 915.62 944.78 974.87	1,699.06 *  5.1817%  \$795.09 822.92 851.73 881.54 912.40 944.34 977.40 1,011.62 1,047.03 1,083.68 1,121.62 1,160.88 1,201.52 1,243.58 1,287.11 1,332.17 1,378.80	5.1817% \$545.21 561.20 577.65 594.59 612.02 629.96 648.43 667.01 707.15 727.88 749.22 771.19 793.80 817.07 841.02 865.68	1,237.99  5.1817%  \$594.87 614.34 634.44 655.20 676.64 698.78 721.64 745.25 769.63 794.82 820.82 847.68 875.42 904.06 933.64 964.19	Pre Act 57 times (1.0 - Factor)
Pre Act 57: Post Act 57: Post Act 57:  D) Conversion Calculation: Conversion Factor:  Post Act 57:	1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012	1,216.11 *  5.1817%  \$590.32 609.12 628.52 648.54 669.20 690.51 712.50 735.19 758.61 782.77 807.70 833.43 859.97 887.36 915.62 944.78 974.87 1,005.92	1,699.06 *  5.1817%  \$795.09  822.92  851.73  881.54  912.40  944.34  977.40  1,011.62  1,047.03  1,083.68  1,121.62  1,160.88  1,201.52  1,243.58  1,287.11  1,332.17  1,378.80  1,427.07	5.1817% \$545.21 561.20 577.65 594.59 612.02 629.96 648.43 667.44 687.01 707.15 727.88 749.22 771.19 793.80 817.00 841.02 865.68 891.06	1,237.99  5.1817%  \$594.87 614.34 634.44 655.20 676.64 698.78 721.64 745.25 769.63 794.82 820.82 847.68 875.42 904.06 933.64 964.19 995.74 1,028.32	Pre Act 57 times (1.0 - Factor)
Pre Act 57: Post Act 57: Post Act 57:  b) Conversion Calculation: Conversion Factor:  Post Act 57:	1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014	5.1817% \$590.32 609.12 628.52 648.54 669.20 690.51 712.50 735.19 758.61 782.77 807.70 833.43 859.97 887.36 915.62 944.78 974.87 1,005.92 1,037.96	1,699.06 *  5.1817%  \$795.09  822.92  851.73  881.54  912.40  944.34  977.40  1,011.62  1,047.03  1,083.68  1,121.62  1,160.88  1,201.52  1,243.58  1,287.11  1,332.17  1,378.80  1,427.07  1,477.03	5.1817% \$545.21 561.20 577.65 594.59 612.02 629.96 648.43 667.44 687.01 707.15 727.88 749.22 771.19 793.80 817.07 841.02 885.68 891.06 917.18	1,237.99  5.1817%  \$594.87 614.34 634.44 655.20 676.64 698.78 721.64 745.25 769.63 794.82 820.82 847.68 875.42 904.06 933.64 964.19 995.74 1,028.32 1,061.96	Pre Act 57 times (1.0 - Factor)
Pre Act 57: Post Act 57: Post Act 57:  b) Conversion Calculation: Conversion Factor:  Post Act 57:	4/1/2021 4/1/2021 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014	1,216.11 *  5.1817%  \$590.32 609.12 628.52 648.54 669.20 690.51 712.50 735.19 758.61 782.77 807.70 833.43 859.97 887.36 915.62 944.78 974.87 1,005.92 1,037.96 1,071.01	1,699.06 *  5.1817%  \$795.09  822.92  851.73  881.54  912.40  944.34  977.40  1,011.62  1,047.03  1,083.68  1,121.62  1,160.88  1,201.52  1,243.58  1,287.11  1,332.17  1,378.80  1,427.07  1,477.03  1,528.73	5.1817% \$545.21 \$61.20 629.96 648.43 667.44 687.01 707.15 727.88 749.22 771.19 793.80 817.07 841.02 865.88 891.06 917.18 944.07	1,237.99  5.1817%  \$594.87 614.34 634.44 655.20 676.64 698.78 721.64 745.25 769.63 794.82 820.82 847.68 875.42 904.06 933.64 964.19 995.74 1,028.32 1,061.96 1,096.71	Pre Act 57 times (1.0 - Factor)
Pre Act 57: Post Act 57: Post Act 57:  b) Conversion Calculation: Conversion Factor:  Post Act 57:	4/1/2021 4/1/2021 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016	1,216.11 *  5.1817%  \$590.32 609.12 628.52 648.54 669.20 690.51 712.50 735.19 758.61 782.77 807.70 833.43 859.97 887.36 915.62 944.78 974.87 1,005.92 1,037.96 1,071.01 1,105.13	1,699.06 *  5.1817%  \$795.09  822.92  851.73  881.54  912.40  944.34  977.40  1,011.62  1,047.03  1,083.68  1,121.62  1,160.88  1,201.52  1,243.58  1,287.11  1,378.80  1,427.07  1,477.03  1,528.73  1,582.25	1,115,46 *  5.1817% \$545,21 561,20 577,65 594,59 612,02 629,96 648,43 667,44 687,01 707,15 727,88 749,22 771,19 793,80 817,07 841,02 865,68 891,06 917,18 944,07 971,75	1,237.99  5.1817%  \$594.87 614.34 634.44 655.20 676.64 698.78 721.64 745.25 769.63 794.82 820.82 847.68 875.42 904.06 933.64 964.19 995.74 1,028.32 1,061.96 1,096.71 1,132.59	Pre Act 57 times (1.0 - Factor)
Pre Act 57: Post Act 57: Post Act 57:  b) Conversion Calculation: Conversion Factor:  Post Act 57:	4/1/2021 4/1/2021 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2016	5.1817%  \$590.32 609.12 628.52 648.54 669.20 690.51 712.50 735.19 788.736.91 887.36 915.62 944.78 974.87 1,005.92 1,037.96 1,071.01 1,105.13 1,140.32	1,699.06 *  5.1817%  \$795.09  822.92  851.73  881.54  912.40  944.34  977.40  1,011.62  1,047.03  1,083.68  1,121.62  1,160.88  1,201.52  1,243.58  1,287.11  1,332.17  1,378.80  1,427.07  1,477.03  1,528.73  1,582.25  1,637.63	1,115.46 *  5.1817% \$545.21 561.20 629.96 648.43 667.44 687.01 707.15 727.88 749.22 771.19 793.80 817.07 841.02 865.68 891.06 917.18 944.07 971.75 1,000.24	1,237.99  5.1817%  \$594.87 614.34 634.44 655.20 676.64 698.78 721.64 745.25 769.63 794.82 820.82 847.68 875.42 904.06 933.64 964.19 995.74 1,028.32 1,061.96 1,096.71 1,132.59 1,169.65	Pre Act 57 times (1.0 - Factor)
Pre Act 57: Post Act 57: Post Act 57:  b) Conversion Calculation: Conversion Factor:  Post Act 57:	4/1/2021 4/1/2021 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016	1,216.11 *  5.1817%  \$590.32 609.12 628.52 648.54 669.20 690.51 712.50 735.19 758.61 782.77 807.70 833.43 859.97 887.36 915.62 944.78 974.87 1,005.92 1,037.96 1,071.01 1,105.13	1,699.06 *  5.1817%  \$795.09  822.92  851.73  881.54  912.40  944.34  977.40  1,011.62  1,047.03  1,083.68  1,121.62  1,160.88  1,201.52  1,243.58  1,287.11  1,378.80  1,427.07  1,477.03  1,528.73  1,582.25	1,115,46 *  5.1817% \$545,21 561,20 577,65 594,59 612,02 629,96 648,43 667,44 687,01 707,15 727,88 749,22 771,19 793,80 817,07 841,02 865,68 891,06 917,18 944,07 971,75	1,237.99  5.1817%  \$594.87 614.34 634.44 655.20 676.64 698.78 721.64 745.25 769.63 794.82 820.82 847.68 875.42 904.06 933.64 964.19 995.74 1,028.32 1,061.96 1,096.71 1,132.59 1,169.65 1,207.92	Pre Act 57 times (1.0 - Factor)

<sup>\*</sup> Post Act 57 for 1997-2018 and Projected to 04/01/2021

Source: Average Weekly Wage (Smoothed) - Exhibit VII-H, pages 1, 2, 3 and 4 - Column (8) Projected 04/01/2021 Weekly Wage - Exhibit VII-H, pages 1, 2, 3 and 4 - Column (6)

Wage level decrease - Exhibit VII-G, Page 2.

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 $<sup>^{**}</sup>$  Post Act 57 applies to one 1996 case on or after 8-23-96 - Pre Act 57 applies to four 1996 cases on or before 8-22-96

<sup>\*\*\*</sup> Factor reflects that 234/365ths of 1996 was Pre Act 57.

#### WAGE LEVEL OFFSET (Act 57, Section 309) and PENSION PERCENTAGE

State Occupational Disease and Federal Excess

Calculation of Wage Offset	Average B	<u>Benefits</u>	State OD
	Before	After	Claim Count
(a) Wage Ranges	<u>Offset</u>	<u>Offset</u>	
Above 869.55	527.00	527.00	32
\$790.50 - 869.55	527.00	503.09	10
\$447.95 - 790.49	408.00	370.95	63
\$395.25 - 447.94	272.00	263.50	11
\$316.20 - 395.24	263.50	263.50	3
\$289.95 - 316.19	263.50	247.94	0
\$0.00 - 289.94	207.00	188.21	1
Account of Tabul	¢ 401 00	¢ 400 F0	100
Average/Total	\$431.90	\$409.52	120

#### (b) <u>Selected State Indemnity Factor:</u>

(ii) After ÷ Before (\$409.52 ÷ \$431.90) 94.8183% (ii) Complement (1.0 minus 0.948183) 5.1817% (iii) Reduced by 10% for Phase-in of Act 57 4.6635%

(See Exhibit VII-G, Page 1)

#### Source:

Wage Ranges - Pennsylvania Compensation Rating Bureau

Evaluation of SB801 Amendments to Section 309 of Act 57

Above \$869.55 - Claims eligible for maximum under either wage calculation.

\$790.50-869.55 - Claims at maximum under current but 2/3 of wage under proposed method.

\$447.95-790.49 - Claims at 2/3 under either wage calculation.

\$395.25-447.94 - Claims at 2/3 under current method but 50% of maximum under proposed method.

\$316.20-395.24 - Claims at 50% under either method.

\$289.95-316.19 - Claims at 50% under current method but 90% of maximum under proposed method.

 $\$.00\mbox{-}289.94$  - Claims at 90% under either method.

Average Benefits Before and After Act 57

State Claim Counts - Claimant wages from 1987 through 1996 Exposure Years from CMCRB database, projected to 1996 level.

#### Calculation of Pension Offset Percentage

	Estimates
(a) Union Membership	50.0%
(b) Pension Paid by Employers	50.0%
(c) Present Employer Directly Liable for Pension	50.0%
(d) Resulting Offset for State O.D.	12.5%

Sources: Percentage of Miners eligible: estimate.

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## Wage Level Adjustment to Current Level - State Occupational Disease Model Anthracite Underground (1011) Page 1

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Claimants'				(1) Adjusted	(5) & (6)	Exponentially
	Statewide	Actual	(2) Adjusted		(3) Ex. High	To Claimants'	Adjusted	Fitted
;	Avg Wage /	Avg Wage	For Act 57	(3)/(1)	<u>&amp; Low</u>	<u>Wage Level</u>	Avg Wages	Wages
1990	419.00	539.87	539.87	1.2885	539.87		539.87	515.82
1991	436.00	0.00				510.68	510.68	532.25
1992	455.00	608.33	608.33	1.3370	608.33		608.33	549.20
1993	475.00	419.67	419.67	0.8835 Low		556.37	556.37	566.69
1994	493.00	0.00				577.45	577.45	584.74
1995	509.00	0.00				596.19	596.19	603.37
1996	527.00	0.00				617.27	617.27	622.58
1997	542.00	0.00				634.84	634.84	642.41
1998	561.00	0.00				657.10	657.10	662.87
1999	588.00	501.00	528.38	0.8986	528.38		528.38	683.98
2000	611.00	0.00				715.66	715.66	705.77
2001	644.00	0.00				754.31	754.31	728.25
2002	662.00	0.00				775.40	775.40	751.44
2003	675.00	0.00				790.62	790.62	775.37
2004	690.00	0.00				808.19	808.19	800.07
2005	716.00	0.00				838.65	838.65	825.55
2006	745.00	0.00				872.61	872.61	851.84
2007	779.00	0.00				912.44	912.44	878.97
2008	807.00	0.00				945.23	945.23	906.96
2009	836.00	0.00				979.20	979.20	935.85
2010	845.00	0.00				989.74	989.74	965.66
2011	858.00	1400.00	1476.51	1.7209 High		1004.97	1004.97	996.41
2012	888.00	0.00				1040.11	1040.11	1028.15
2013	917.00	1009.57	1064.74	1.1611	1064.74		1064.74	1060.89
2014	932.00	0.00				1091.65	1091.65	1094.68
2015	951.00	0.00				1113.90	1113.90	1129.54
2016	978.00	0.00				1145.53	1145.53	1165.52
2017	995.00	0.00				1165.44	1165.44	1202.64
2018	1025.00	0.00				1200.58	1200.58	1240.94
2019	1049.00	_						

High 1.7209 Low 0.8835 Average Ratio Claimant/State - High & Low 1.1713

Projected

4/1/2021

2020 1,075.002021 1,102.002022 1,130.00

Projected Avg. Wage at Claimants' Level 1,095.00 \* 1.1713 = \$1,282.57

Act 57 Factor: 94.8183%

- (1) Statewide average weekly wage
- (2) CMCRB database, reported State OD average weekly wage

the reported wages were adjusted to pre-act 57 wage level by dividing them by the wage offset of (1.0 minus .051817)

(3)= Column (2) adjusted for Act 57

(4) = (3)/(1)

(5)Actual adjusted wages excluding High and Low

(6) Wage history based on State OD wages, except for high, low, and zeroes where SAWW times average indices was used

(7) Adjusted Wages using Cols. (5) & (6)

(8) Fitted Wages using Regression on data in Col.(7)

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#### Wage Level Adjustment to Current Level - State Occupational Disease Model Page 2

**Bituminous Underground (1002)** 

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Claimants'				(1) Adjusted	(5) & (6)	Exponentially
	Statewide	Actual	(2) Adjusted		(3) Ex. High	To Claimants'	Adjusted	Fitted
	<u>Avg Wage</u>	Avg Wage	For Act 57	(3)/(1)	& Low	Wage Level	Avg Wages	Wages
1990	419.00	779.92	779.92	1.8614	779.92		779.92	682.13
1991	436.00	827.00	827.00	1.8968	827.00		827.00	706.01
1992	455.00	652.04	652.04	1.4331	652.04		652.04	730.72
1993			729.40	1.5356	729.40		729.40	756.30
1994	493.00	1043.85	1043.85	2.1173	1043.85		1043.85	782.77
1995	509.00	1525.00	1525.00	2.9961 High		832.95	832.95	810.18
1996	527.00	706.64	706.64	1.3409	706.64		706.64	838.54
1997			708.92	1.3080	708.92		708.92	867.89
1998	561.00	1058.08	1115.90	1.9891	1115.90		1115.90	898.27
1999	588.00		711.89	1.2107	711.89		711.89	929.72
2000	611.00	901.03	950.27	1.5553	950.27		950.27	962.26
2001	644.00	604.79	637.84	0.9904 Low		1053.87	1053.87	995.95
2002	662.00	800.15	843.88	1.2747	843.88		843.88	1030.81
2003	675.00	1324.39	1396.77	2.0693	1396.77		1396.77	1066.90
2004	690.00	876.68	924.59	1.3400	924.59		924.59	1104.25
2005	716.00	912.44	962.30	1.3440	962.30		962.30	1142.90
2006	745.00					1219.15	1219.15	1182.91
2007	779.00	0.00				1274.79	1274.79	1224.32
2008	807.00	1164.02	1227.63	1.5212	1227.63		1227.63	1267.18
2009	836.00	0.00				1368.07	1368.07	1311.54
2010	845.00	0.00				1382.80	1382.80	1357.45
2011	858.00	1269.97	1339.37	1.5610	1339.37		1339.37	1404.97
2012			1399.48	1.5760	1399.48		1399.48	1454.15
2013	917.00	1537.44	1621.46	1.7682	1621.46		1621.46	1505.06
2014	932.00	1473.55	1554.08	1.6675	1554.08		1554.08	1557.74
2015	951.00	1333.56	1406.44	1.4789	1406.44		1406.44	1612.27
2016	978.00	1465.73	1545.83	1.5806	1545.83		1545.83	1668.71
2017		0.00				1628.27	1628.27	1727.13
2018	1025.00	2500.00	2636.62	2.5723	2636.62		2636.62	1787.59
2019	1049.00							
			High	2.9961				
			Low	0.9904				
Average	e Ratio Claii	mant/State -	High & Low	1.6364				

Projected

2020 1,075.00 2021 1.102.00

2022 1,130.00

Projected Avg. Wage at Claimants' Level 4/1/2021 1,095.00 1,095.00 \* 1.6364 = \$1,791.91

Act 57 Factor: 94.8183%

(1) Statewide average weekly wage

(2) CMCRB database, reported State OD average weekly wage

the reported wages were adjusted to pre-act 57 wage level by dividing them by the wage offset of (1.0 minus .051817)

(3)= Column (2) adjusted for Act 57

(4) = (3)/(1)

(5)Actual adjusted wages excluding High and Low

(6) Wage history based on State OD wages, except for high, low, and zeroes where SAWW times average indices was used

(7) Adjusted Wages using Cols. (5) & (6)

(8) Fitted Wages using Regression on data in Col.(7)

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### Wage Level Adjustment to Current Level - State Occupational Disease Model Anthracite Surface (1016)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	( )	Claimants'	(-)	( )	(-7	(1) Adjusted		Exponentially
	Statewide	Actual	(2) Adjusted		(3) Ex. High	To Claimants'	Adjusted	Fitted
	Avg Wage	Avg Wage	For Act 57	(3)/(1)		Wage Level	-	Wages
1990	419.00	549.31	549.31	1.3110	549.31		549.31	483.48
1991	436.00	492.75	492.75	1.1302	492.75		492.75	497.65
1992	455.00	565.40	565.40	1.2426	565.40		565.40	512.24
1993	475.00	548.61	548.61	1.1550	548.61		548.61	527.26
1994	493.00	543.95	543.95	1.1033	543.95		543.95	542.72
1995	509.00	651.62	651.62	1.2802	651.62		651.62	558.63
1996	527.00	453.71	453.71	0.8609	453.71		453.71	575.01
1997	542.00	530.26	559.24	1.0318	559.24		559.24	591.87
1998	561.00	744.92	785.63	1.4004	785.63		785.63	609.22
1999	588.00	571.47	602.70	1.0250	602.70		602.70	627.08
2000	611.00	133.68	140.99	0.2307 Low		656.43	656.43	645.46
2001	644.00	517.49	545.77	0.8475	545.77		545.77	664.39
2002	662.00	589.00	621.19	0.9384	621.19		621.19	683.86
2003	675.00	633.40	668.01	0.9897	668.01		668.01	703.91
2004	690.00	1568.35	1654.06	2.3972 High		741.30	741.30	724.55
2005	716.00	575.91	607.38	0.8483	607.38		607.38	745.79
2006	745.00	0.00				800.39	800.39	767.66
2007	779.00	733.08	773.14	0.9925	773.14		773.14	790.16
2008	807.00	0.00				867.00	867.00	813.33
2009	836.00	0.00				898.16	898.16	837.18
2010	845.00	0.00				907.83	907.83	861.72
2011	858.00	466.84	492.35	0.5738	492.35		492.35	886.98
2012	888.00	0.00				954.02	954.02	912.99
2013	917.00	0.00				985.18	985.18	939.75
2014	932.00	0.00				1001.30	1001.30	967.30
2015	951.00	0.00				1021.71	1021.71	995.66
2016	978.00	1422.00	1499.71	1.5334	1499.71		1499.71	1024.85
2017	995.00	0.00				1068.98	1068.98	1054.90
2018	1025.00	0.00				1101.21	1101.21	1085.83
2019	1049.00							
			∐iah	2072				

High 2.3972 Low 0.2307

Average Ratio Claimant/State - High & Low 1.0744

Projected

2020 1,075.002021 1,102.002022 1,130.00

Projected Avg. Wage at Claimants' Level 4/1/2021 1,095.00 1,095.00 1,095.00 1,0744 = \$1,176.42

Act 57 Factor: 94.8183%

- (1) Statewide average weekly wage
- (2) CMCRB database, reported State OD average weekly wage

the reported wages were adjusted to pre-act 57 wage level by dividing them by the wage offset of (1.0 minus .051817)

(3)= Column (2) adjusted for Act 57

(4) = (3)/(1)

(5)Actual adjusted wages excluding High and Low

(6) Wage history based on State OD wages, except for high, low, and zeroes where SAWW times average indices was used

(7) Adjusted Wages using Cols. (5) & (6)

(8) Fitted Wages using Regression on data in Col.(7)

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Effective Date - April 01, 2020

### Wage Level Adjustment to Current Level - State Occupational Disease Model Bituminous Surface (1013)

				PHOTHINOUS 3	ulluce (1013)	1		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Claimants'				(1) Adjusted	(5) & (6)	Exponentially
	Statewide	Actual	(2) Adjusted		(3) Ex. High	To Claimants'	Adjusted	Fitted
	Avg Wage	Avg Wage	For Act 57	(3)/(1)	& Low	Wage Level	Avg Wages	Wages
1990	419.00	481.50	481.50	1.1492	481.50		481.50	517.18
1991	436.00	595.45	595.45	1.3657	595.45		595.45	534.10
1992	455.00	652.89	652.89	1.4349	652.89		652.89	551.57
1993	475.00	705.41	705.41	1.4851 High		566.37	566.37	569.62
1994	493.00	621.91	621.91	1.2615	621.91		621.91	588.26
1995	509.00	477.90	477.90	0.9389	477.90		477.90	607.51
1996	527.00	628.07	644.84	1.2236	644.84		644.84	627.38
1997	542.00	698.16	736.31	1.3585	736.31		736.31	647.91
1998	561.00	500.00	527.32	0.9400	527.32		527.32	669.11
1999	588.00	569.19	600.30	1.0209	600.30		600.30	691.00
2000	611.00	0.00				728.54	728.54	713.61
2001	644.00	0.00				767.88	767.88	736.96
2002	662.00	0.00				789.35	789.35	761.08
2003	675.00	0.00				804.85	804.85	785.98
2004	690.00	0.00				822.73	822.73	811.69
2005	716.00	676.00	712.94	0.9957	712.94		712.94	838.25
2006	745.00	0.00				888.31	888.31	865.68
2007	779.00	0.00				928.85	928.85	894.00
2008	807.00	0.00				962.24	962.24	923.26
2009	836.00	0.00				996.82	996.82	953.47
2010	845.00	0.00				1007.55	1007.55	984.66
2011	858.00	1111.56	1172.31	1.3663	1172.31		1172.31	1016.88
2012	888.00	1157.60	1220.86	1.3748	1220.86		1220.86	1050.15
2013	917.00	0.00				1093.40	1093.40	1084.51
2014	932.00	946.16	997.87	1.0707	997.87		997.87	1120.00
2015	951.00	734.85	775.01	0.8149 Low		1133.94	1133.94	1156.64
2016	978.00	0.00				1166.13	1166.13	1194.49
2017	995.00	0.00				1186.40	1186.40	1233.57
2018	1025.00	0.00				1222.17	1222.17	1273.93
0010	1040.00							l l

High 1.4851 Low 0.8149

Average Ratio Claimant/State - High & Low 1.1924

Projected

4/1/2021

2019

2020 1,075.002021 1,102.002022 1,130.00

1049.00

2022 1,130.00

Projected Avg. Wage at Claimants' Level

1,095.00 \* 1.1924 = \$1,305.64

Act 57 Factor: 94.8183%

(1) Statewide average weekly wage

1,095.00

(2) CMCRB database, reported State OD average weekly wage

the reported wages were adjusted to pre-act 57 wage level by dividing them by the wage offset of (1.0 minus .051817) only one of the three claims in 1996 was adjusted by the pre-act 57 wage level

(3)= Column (2) adjusted for Act 57

(4) = (3)/(1)

(5)Actual adjusted wages excluding High and Low

(6) Wage history based on State OD wages, except for high, low, and zeroes where SAWW times average indices was used

(7) Adjusted Wages using Cols. (5) & (6)

(8) Fitted Wages using Regression on data in Col.(7)

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Effective Date - April 01, 2020

## COAL MINE COMPENSATION RATING BUREAU State OD Losses Social Security Offset

#### Social Security - Cost of Living Adjustment History and Projection

The following annual cost of living percentage is used to adjust the Social Security benefit calculated at time of accident to retirement age.

<u>Year</u>	Annual <u>Changes</u>
1990	5.4%
1991	3.7%
1992	3.0%
1993	2.6%
1994	2.8%
1995	2.6%
1996	2.9%
1997	2.1%
1998	1.3%
1999	2.5%
2000	3.5%
2001	2.6%
2002	1.4%
2003	2.1%
2004	2.7%
2005	4.1%
2006	3.3%
2007	2.3%
2008	5.8%
2009	0.0%
2010	0.0%
2011	3.6%
2012	1.7%
2013	1.5%
2014	1.7%
2015	0.0%
2016	0.3%
2017	2.0%
2018	2.8%
2019	1.6%
Average All years  Average latest 10 years	2.4%
Average latest 5 years	1.3%
Average latest 3 years	2.1%
Selected Annual Change Last Year's Selection was 2.5%	2.4%

Source: Social Security Administration Web Site

#### COAL MINE COMPENSATION RATING BUREAU State OD Losses Social Security Offset

#### Social Security Formulas - Historic Primary Insurance Amounts (PIA) and Projections

The following projections are used to calculate the PIA (i.e., SS Benefit) in the SS Offset Model.

		Monti	hly Wage Am Plus	iouriis Break	Points:		Annual	
	90%	Percent	32%	Percent	15%	Percent	SS Wage	Percent
Year	of First:	Change	of next:	Change	of next:		Base	Change
1990	356	change	1,789	Change	2,130	Change	51,300	Change
1991	370	3.9%	1,860	4.0%	2,220	4.2%	53,400	4.1%
1992	387	4.6%	1,946	4.6%	2,220	3.2%	55,500	3.9%
1993	401	3.6%	2,019	3.8%	2,380	3.8%	57,600	3.8%
1994	422	5.2%	2,123	5.2%	2,505	5.3%	60,600	5.2%
1995	426	0.9%	2,141	0.8%	2,533	1.1%	61,200	1.0%
1996	437	2.6%	2,198	2.7%	2,590	2.3%	62,700	2.5%
1997	455	4.1%	2,286	4.0%	2,709	4.6%	65,400	4.3%
1998	477	4.8%	2,398	4.9%	2,825	4.3%	68,400	4.6%
1999	505	5.9%	2,538	5.8%	3,007	6.4%	72,600	6.1%
2000	531	5.1%	2,671	5.2%	3,148	4.7%	76,200	5.0%
2001	561	5.6%	2,820	5.6%	3,319	5.4%	80,400	5.5%
2002	592	5.5%	2,975	5.5%	3,508	5.7%	84,900	5.6%
2003	606	2.4%	3,047	2.4%	3,597	2.5%	87,000	2.5%
2004	612	1.0%	3,077	1.0%	3,636	1.1%	87,900	1.0%
2005	627	2.5%	3,152	2.4%	3,721	2.3%	90,000	2.4%
2006	656	4.6%	3,299	4.7%	3,895	4.7%	94,200	4.7%
2007	680	3.7%	3,420	3.7%	4,025	3.3%	97,500	3.5%
2008	711	4.6%	3,577	4.6%	4,212	4.6%	102,000	4.6%
2009	744	4.6%	3,739	4.5%	4,417	4.9%	106,800	4.7%
2010	761	2.3%	3,825	2.3%	4,314	-2.3%	106,800	0.0%
2011	749	-1.6%	3,768	-1.5%	4,383	1.6%	106,800	0.0%
2012	767	2.4%	3,857	2.4%	4,551	3.8%	110,100	3.1%
2013	791	3.1%	3,977	3.1%	4,707	3.4%	113,700	3.3%
2014	816	3.2%	4,101	3.1%	4,833	2.7%	117,000	2.9%
2015	826	1.2%	4,154	1.3%	4,895	1.3%	118,500	1.3%
2016	856	3.6%	4,301	3.5%	4,718	-3.6%	118,500	0.0%
2017	885	3.4%	4,451	3.5%	5,264	11.6%	127,200	7.3%
2018	895	1.1%	4,502	1.1%	5,303	0.7%	128,400	0.9%
2019	926	3.5%	4,657	3.4%	5,492	3.6%	132,900	3.5%
2020	960	3.7%	4,825	3.6%	5,690	3.6%	137,700	3.6%
Average All years		3.4%		3.4%		3.4%		3.4%
Average latest 10 years		2.4%		2.4%		2.9%		2.6%
Average latest 5 years		3.1%		3.0%		3.2%		3.1%
Average latest 3 years		2.8%		2.7%		2.6%		2.7%
Last Year's Selection		2.5%		2.5%		2.5%		2.5%
Selection		2.5%		2.5%		2.5%		2.5%
<u>Projections</u>		Selected		Selected		Selected		Selected
2020	960	Actual	4,825	Actual	5,690	Actual	137,700	Actual
2021	984	2.5%	4,946	2.5%	5,832	2.5%	141,100	2.5%
2022	1,009	2.5%	5,070	2.5%	5,978	2.5%	144,600	2.5%
Average Break Point	978		4,916		5,797		140,300	

For Policies effective between 4-1-2020 and 4-1-2021

Note: Weighted average of the three calendar years: 2020, 2021, 2022.

Weights: 2020 28.125% 2021 68.750% 2022 3.125% 100.00%

The above weights assume 1-year policies effective between 4-1-2020 and 4-1-2021 E.G.: 28.125% of the losses will occur between 4-1-2020 and 12-31-2020. 68.750% of the losses will occur between 1-1-2021 and 12-31-2021.

3.125% of the losses will occur between 1-1-2022 and 3-31-2022.

Source: Social Se curity Administration Web Site

## COAL MINE COMPENSATION RATING BUREAU State OD Losses Social Security Offset

## Social Security Formulas - Primary Insurance Amount (PIA) Calculations Example Calculations

I. Break Point Monthly Wage Amounts and Factors (Exhibit VII-J, Page 2)

Break Points (Projected to average accident date of 4-1-2021 with a 4-1-2020 filing effective date.)

			Monthly Wages	
	Yearly	First	Second	Third
	<u>Maximum</u>	<b>Break Point</b>	<b>Break Point</b>	<b>Break Point</b>
Wage Amount:	140,300	978	4,916	5,797
Factor:		90%	32%	15%

#### II. Example Calculations

		Adjusted	PI	A at each Breakpoint		
Example <u>Number</u>	Monthly <u>Wage</u>	Monthly <u>Wage (a)</u>	First (b)	Second (c)	Third (d)	Total <u>PIA</u>
1	2,000	2,000	978 <u>90%</u> 880	1,022 <u>32%</u> 327	0 <u>15%</u> 0	1,207
2	4,000	4,000	978 <u>90%</u> 880	3,022 <u>32%</u> 967	0 <u>15%</u> 0	1,847
3	6,000	6,000	978 <u>90%</u> 880	<b>4</b> ,916 <u>32%</u> 1,573	106 <u>15%</u> 16	2,469
4	8,000	8,000	978 <u>90%</u> 880	<b>4</b> ,916 <u>32%</u> 1,573	2,106 <u>15%</u> 316	2,769
5	10,000	10,000	978 <u>90%</u> 880	<b>4</b> ,916 <u>32%</u> 1,573	4,106 <u>15%</u> 616	3,069
6	12,000	11,692	978 <u>90%</u> 880	4,916 <u>32%</u> 1,573	5,797 <u>15%</u> 870	3,323

#### Notes:

- (a) Monthly Wage limited to Monthly Maximum (\$140,300/12 = \$11,692)
- (b) minimum of adjusted monthly wage and \$978
- (c) minimum of (adjusted monthly wage less \$978) and \$4,916
- (d) minimum of (adjusted monthly wage less \$978 less \$4,916) and \$5,797

Source: Exhibit VII-J, Page 2

#### ANTHRACITE UNDERGROUND (0160)

		Co	ounts								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
					Pending	Denied	Denied	Ultimate	Ultimate		IBNR
V = ===	Reported	Awarded	Pending	Denied	Awarded	Reopened	Awarded	Awarded	Denied	IBNR	Awarded
Year 1999	# 1	# 0	# 0	# 1	(3) * 30% # 0.00	# 0.15	# 0.03	(2)+(5)+(7) # 0.03	<u>(1)-(8)</u> # 0.97	# 0.0000	(10)xAwd Ratio # 0.0000
2000	# I	π 0	# 0	π ι	π 0.00 -	π 0.15	π 0.03 -	# 0.03	π 0.77	# 0.0000 -	# 0.0000
2001	_	_	_	_	_	_	_	_	_	-	_
2002	-	-	_	-	-	-	-	-	_	-	-
2003	-	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009 2010	-	-	-	-	-	-	-	-	-	-	-
2010	-	-	_	-	-	_	-	-	_	_	-
2011				-	-	_				-	
2013	1	1	_	_	_	_	_	1.00	_	_	_
2014	-		_	_	_	_	_	-	_	-	_
2015	-	-	_	-	-	-	-	-	_	-	-
2016	-	-	-	-	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-	-	-	-	-
2018										0.0148	0.0052
Total	2	1	-	1	-	0.15	0.03	1.03	0.97	0.0148	0.0052
		(12)	(13)	(14)	(15)	(16)	(17)	(18)			
		Total	Payroll		Statewide		Estimated	Frequency			
		Awarded	(\$M)	Frequency	Average	Adjustment	Miner	Per 100			
Year		(8)+(11)	(4)	(12)/(13)	Weekly Wage	-	Years	Miner Years			-
1999		# 0.0300	\$ 1.8142	0.0165	588	1.072	55.3	0.0542			
2000		π 0.0300 -	1.3702	0.0165	611	1.072	40.2	0.0342			
				-				-			
2001		-	1.6365	-	644	1.072	45.6	-			
2002		-	1.3865	-	662	1.072	37.6	-			
2003		-	1.3543	-	675	1.072	36.0	-			
2004		-	1.3453	-	690	1.072	35.0	-			
2005		-	1.4176	-	716	1.072	35.5	-			
2006		-	1.4425	-	745	1.072	34.7	-			
2007		-	1.6625	-	779	1.072	38.3	-			
2008		-	2.1367	-	807	1.072	47.5	-			
2009		-	1.3359	-	836	1.072	28.7	-			
2010		-	1.2996	-	845	1.072	27.6	-			
2011		-	1.2579	-	858	1.072	26.3	-			
2012		-	1.0293	-	888	1.072	20.8	-			
2013		1.0000	0.3819	2.6185	917	1.072	7.5	13.3333			
2014		-	0.2588	_	932	1.072	5.0	_			
2015		_	0.2543	_	951	1.072	4.8	_			
2016		_	0.1638	_	978	1.072	3.0	_			
2017			0.1638	-	995	1.072		-			
		- 0.0050		-			4.6	- 0.1/00			
2018											
Total		<u>0.0052</u> 1.0352	0.1833 21.9835	<u>0.0286</u> 0.0471	1,025	1.072	<u>3.2</u> 537.2	0.1638			

Sources: Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.15)xCol.(4);2000 & Prior (0.05)xCol.(4);2001 & Subseq.

Col.(7): (0.20)xCol.(6);2000 & Prior (1.00)xCol.(6);2001 & Subseq.

Col.(10): 40% of Exh. VII-C-1 thru VII-C-6

Col.(13): Exh. X-A

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Run Date: September 23, 2019 - 09:21:47 AM

IBNR Award Ratio (2000 & Prior): 0.3533

IBNR Award Ratio(2001 & Subseq.): 0.3549

Col.(15): Exhibit XII-D Col.(16): Exhibit X-G

Col.(17): (13) / ((15) x (16) x 52)

times 1000000

Col.(18): (12) / (17) x 100

#### BITUMINOUS UNDERGROUND (0158)

		Co	ounts								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
					Pending	Denied	Denied	Ultimate	Ultimate		IBNR
Voor	Reported	Awarded	Pending	Denied	Awarded (3) * 30%	Reopened	Awarded	Awarded	Denied	IBNR	Awarded (10)xAwd Ratio
Year 1999	# 2	# 1	# O	# 1	# 0.00	# 0.15	# 0.03	(2)+(5)+(7) # 1.03	<u>(1)-(8)</u> # 0.97	# 0.0000	# 0.0000
2000	3	1	-	2	# 0.00 -	0.30	0.06	1.06	1.94	n 0.0000 -	-
2001	2	1	-	1	-	0.05	0.05	1.05	0.95	-	-
2002	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2003	-	-	-	-	-	-	-	-	-	-	-
2004	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2005	1	1	-	-	-	-	-	1.00	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-
2007 2008	2	1	-	- 1	-	0.05	0.05	1.05	0.95	_	-
2009	_		_		-	0.05	0.05	1.05	0.75	_	-
2010	1	1	_	_	-	_	_	1.00	_	_	_
2011	2	2	-	-	-	-	-	2.00	-	-	-
2012	4	1	-	3	-	0.15	0.15	1.15	2.85	0.0492	0.0174
2013	6	-	1	5	0.30	0.25	0.25	0.55	5.45	0.1432	0.0508
2014	2	-	1	1	0.30	0.05	0.05	0.35	1.65	0.5446	0.1933
2015	3	-	2	1	0.60	0.05	0.05	0.65	2.35	0.7282	0.2584
2016	3	-	2	1	0.60	0.05	0.05	0.65	2.35	0.7214	0.2560
2017 2018	2	-	2	-	0.60	-	-	0.60	1.40	1.2801 2.2621	0.4543 0.8028
Total	35	9	8	18	2.40	1.20	0.84	12.24	22.76	5.7287	2.0331
10101	00	,	Ü	10	2.10	1.20	0.01	12.21	22.70	0.7 207	2.0001
		(10)	(12)	(1.4)	(15)	(16)	(17)	(18)			
		(12)	(13)	(14)	(15)	(10)	(17)				
		Total	Payroll		Statewide		Estimated	Frequency			
		Awarded	(\$M)	Frequency	Average	Adjustment	Miner	Per 100			_
Year		(8)+(11)		(12)/(13)	Weekly Wage	<u>Factor</u>	<u>Years</u>	Miner Years			
1999		# 1.0300	\$ 58.6852	0.0176	588	1.549	1,239.1	0.0831			
2000		1.0600	47.5206	0.0223	611	1.549	965.6	0.1098			
2001		1.0500	48.5226	0.0216	644	1.549	935.4	0.1123			
2002		0.0500	40.8380	0.0012	662	1.549	765.9	0.0065			
2003		-	36.4984	-	675	1.549	671.3	-			
2004		0.0500	46.0739	0.0011	690	1.549	829.0	0.0060			
2005		1.0000	66.2758	0.0151	716	1.549	1,149.2	0.0870			
2006		-	70.4659	-	745	1.549	1,174.3	-			
2007		-	79.9043	-	779	1.549	1,273.4	-			
2008		1.0500	101.3540	0.0104	807	1.549	1,559.2	0.0673			
2009		_	101.3481	_	836	1.549	1,505.1	_			
2010		1.0000	125.3936	0.0080	845	1.549	1,842.3	0.0543			
2011		2.0000	148.4857	0.0135	858	1.549	2,148.5	0.0931			
2012		1.1674	153.6189	0.0076	888	1.549	2,147.7	0.0544			
2012		0.6008	145.1463	0.0076	917	1.549	1,965.1	0.0306			
2013		0.5433	183.4320	0.0041	932	1.549	2,443.5	0.0308			
2014		0.9084	140.5703		951	1.549		0.0222			
				0.0065			1,835.1 1,504.8				
2016		0.9060	118.5455	0.0076	978	1.549		0.0602			
2017		0.4543	172.8008	0.0026	995	1.549	2,156.1	0.0211			
<u>2018</u>		1.4028	179.7466	0.0078	1,025	1.549	2,177.1	0.0644			
Total		14.2731	2,065.2265	0.0069			30,287.7	0.0471			

Sources: Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.15)xCol.(4);2000 & Prior (0.05)xCol.(4);2001 & Subseq.

Col.(7): (0.20)xCol.(6);2000 & Prior (1.00)xCol.(6);2001 & Subseq.

Col.(10): 40% of Exh. VII-C-1 thru VII-C-6

Col.(13): Exh. X-A

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Col.(15): Exhibit XII-D Col.(16): Exhibit X-G

Col.(17): (13) / ( (15) x (16) x 52 ) times 1000000

Col.(18): (12) / (17) x 100

IBNR Award Ratio (2000 & Prior): 0.3533

#### ANTHRACITE SURFACE(0153)

		Co	ounts								
	(1)	(2)	(3)	(4)	(5) Pending	(6) Denied	(7) Denied	(8) Ultimate	(9) Ultimate	(10)	(11) IBNR
V	Reported	Awarded	Pending	Denied	Awarded	Reopened		Awarded	Denied	IBNR	Awarded
Year 1999	# 0	# 0	# 0	# 0	(3) * 30% # 0.00	# 0 00	# 0 00	<u>(2)+(5)+(7)</u>	<u>(1)-(8)</u> # 0.00	# 0.0000	(10)xAwd Ratio
2000	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00	# 0.00 1.00	# 0.00	# 0.0000	# 0.0000
2001	i	i	_	-	_	_	_	1.00	_	_	-
2002	-	-	-	-	-	-	-	-	_	-	-
2003	2	1	-	1	-	0.05	0.05	1.05	0.95	-	-
2004	1	1	-	-	-	-	-	1.00	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-
2006	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2007	2	-	-	2	-	0.10	0.10	0.10	1.90	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009 2010	-	-	-	-	-	-	-	-	-	-	-
2010	1	-	1	-	0.30	-	-	0.30	0.70	-	-
2012	-	_	-	_	-	_	_	-	-	_	_
2013	-	_	-	-	-	-	-	-	_	_	-
2014	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2015	-	-	-	-	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-	-	-	0.0286	0.0102
2017	-	-	-	-	-	-	-	-	-	0.0737	0.0262
<u>2018</u>										0.1101	0.0391
Total	10	4	I	5	0.30	0.25	0.25	4.55	5.45	0.2125	0.0754
		(4.0)	(4.0)	44.43	(2.5)			(4.0)			
		(12)	(13)	(14)	(15)	(16)	(17)	(18)			
		Total	Payroll		Statewide		Estimated	Frequency			
		Total Awarded	Payroll (\$M)	Frequency	Statewide Average	Adjustment	Estimated Miner	Frequency Per 100			_
Year				Frequency (12)/(13)		•					-
Year 1999		Awarded			Average	•	Miner	Per 100			-
		Awarded (8)+(11)	(\$M)	(12)/(13)	Average Weekly Wage	<u>Factor</u>	Miner <u>Years</u>	Per 100 Miner Years			-
1999		Awarded (8)+(11) # 0.0000	(\$M) \$ 18.4411	<u>(12)/(13)</u> -	Average <u>Weekly Wage</u> 588	<u>Factor</u> 1.072	Miner Years 562.6	Per 100  Miner Years			-
1999 2000		Awarded (8)+(11) # 0.0000 1.0000	(\$M) \$ 18.4411 16.8078	(12)/(13) - 0.0595	Average <u>Weekly Wage</u> 588 611	Factor 1.072 1.072	Miner <u>Years</u> 562.6 493.5	Per 100 Miner Years - 0.2026			-
1999 2000 2001		Awarded (8)+(11) # 0.0000 1.0000 1.0000	(\$M) \$ 18.4411 16.8078 12.9237	(12)/(13) - 0.0595 0.0774	Average Weekly Wage 588 611	Factor 1.072 1.072 1.072	Miner <u>Years</u> 562.6 493.5 360.0	Per 100  Miner Years  - 0.2026 0.2778			-
1999 2000 2001 2002		Awarded (8)+(11) # 0.0000 1.0000	(\$M) \$ 18.4411 16.8078 12.9237 11.0466	(12)/(13) - 0.0595 0.0774	Average Weekly Wage 588 611 644 662	Factor 1.072 1.072 1.072 1.072	Miner <u>Years</u> 562.6 493.5 360.0 299.3 317.0	Per 100  Miner Years  - 0.2026 0.2778			-
1999 2000 2001 2002 2003		Awarded (8)+(11) # 0.0000 1.0000 1.0000 1.0500	(\$M) \$ 18.4411 16.8078 12.9237 11.0466 11.9282	(12)/(13) - 0.0595 0.0774 - 0.0880	Average  Weekly Wage  588 611 644 662 675	Factor 1.072 1.072 1.072 1.072 1.072	Miner <u>Years</u> 562.6 493.5 360.0 299.3	Per 100 Miner Years - 0.2026 0.2778 - 0.3312			-
1999 2000 2001 2002 2003 2004 2005		Awarded (8)+(11) # 0.0000 1.0000 1.0000 - 1.0500 1.0000	(\$M) \$ 18.4411 16.8078 12.9237 11.0466 11.9282 12.3597 12.1409	0.0595 0.0774 - 0.0880 0.0809	Average  Weekly Wage  588 611 644 662 675 690 716	1.072 1.072 1.072 1.072 1.072 1.072 1.072	Miner Years 562.6 493.5 360.0 299.3 317.0 321.3 304.2	Per 100  Miner Years  - 0.2026 0.2778 - 0.3312 0.3112			-
1999 2000 2001 2002 2003 2004 2005 2006		Awarded (8)+(11) # 0.0000 1.0000 1.0000 - 1.0500 1.0000 - 0.0500	(\$M) \$ 18.4411 16.8078 12.9237 11.0466 11.9282 12.3597 12.1409 12.0653	0.0595 0.0774 - 0.0880 0.0809 - 0.0041	Average  Weekly Wage  588 611 644 662 675 690	1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Miner Years 562.6 493.5 360.0 299.3 317.0 321.3 304.2 290.5	Per 100  Miner Years  - 0.2026 0.2778 - 0.3312 0.3112 - 0.0172			-
1999 2000 2001 2002 2003 2004 2005 2006 2007		Awarded (8)+(11) # 0.0000 1.0000 1.0000 - 1.0500 1.0000	(\$M) \$ 18.4411 16.8078 12.9237 11.0466 11.9282 12.3597 12.1409 12.0653 14.8666	0.0595 0.0774 - 0.0880 0.0809	Average  Weekly Wage  588  611  644  662  675  690  716  745  779	1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Miner Years 562.6 493.5 360.0 299.3 317.0 321.3 304.2 290.5 342.4	Per 100  Miner Years  - 0.2026 0.2778 - 0.3312 0.3112			-
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008		Awarded (8)+(11) # 0.0000 1.0000 - 1.0500 1.0000 - 0.0500 0.1000	(\$M) \$ 18.4411 16.8078 12.9237 11.0466 11.9282 12.3597 12.1409 12.0653 14.8666 16.2202	0.0595 0.0774 - 0.0880 0.0809 - 0.0041	Average  Weekly Wage  588  611  644  662  675  690  716  745  779  807	1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Miner Years 562.6 493.5 360.0 299.3 317.0 321.3 304.2 290.5 342.4 360.6	Per 100  Miner Years  - 0.2026 0.2778 - 0.3312 0.3112 - 0.0172			_
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009		Awarded (8)+(11) # 0.0000 1.0000 1.0000 - 1.0500 1.0000 - 0.0500 0.1000	(\$M) \$ 18.4411 16.8078 12.9237 11.0466 11.9282 12.3597 12.1409 12.0653 14.8666 16.2202 15.8935	0.0595 0.0774 - 0.0880 0.0809 - 0.0041	Average  Weekly Wage  588  611  644  662  675  690  716  745  779  807  836	1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Miner Years 562.6 493.5 360.0 299.3 317.0 321.3 304.2 290.5 342.4 360.6 341.0	Per 100 Miner Years  0.2026 0.2778 - 0.3312 0.3112 - 0.0172 0.0292			
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010		Awarded (8)+(11) # 0.0000 1.0000 1.0000 - 1.0500 1.0000 - 0.0500 0.1000	(\$M) \$ 18.4411 16.8078 12.9237 11.0466 11.9282 12.3597 12.1409 12.0653 14.8666 16.2202 15.8935 13.3192	0.0595 0.0774 - 0.0880 0.0809 - 0.0041 0.0067	Average  Weekly Wage  588  611  644  662  675  690  716  745  779  807  836  845	1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Miner Years 562.6 493.5 360.0 299.3 317.0 321.3 304.2 290.5 342.4 360.6 341.0 282.8	Per 100  Miner Years  0.2026 0.2778 - 0.3312 0.3112 - 0.0172 0.0292			
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011		Awarded (8)+(11) # 0.0000 1.0000 1.0000 - 1.0500 1.0000 - 0.0500 0.1000 0.3000	(\$M) \$ 18.4411 16.8078 12.9237 11.0466 11.9282 12.3597 12.1409 12.0653 14.8666 16.2202 15.8935 13.3192 19.5074	0.0595 0.0774 - 0.0880 0.0809 - 0.0041	Average  Weekly Wage  588  611  644  662  675  690  716  745  779  807  836  845  858	1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Miner Years 562.6 493.5 360.0 299.3 317.0 321.3 304.2 290.5 342.4 360.6 341.0 282.8 407.9	Per 100 Miner Years  0.2026 0.2778 - 0.3312 0.3112 - 0.0172 0.0292			
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012		Awarded (8)+(11) # 0.0000 1.0000 1.0000 - 1.0500 1.0000 - 0.0500 0.1000 - 0.3000	(\$M) \$ 18.4411 16.8078 12.9237 11.0466 11.9282 12.3597 12.1409 12.0653 14.8666 16.2202 15.8935 13.3192 19.5074 24.7347	0.0595 0.0774 - 0.0880 0.0809 - 0.0041 0.0067 - - 0.0154	Average  Weekly Wage  588  611  644  662  675  690  716  745  779  807  836  845  858	1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Miner Years 562.6 493.5 360.0 299.3 317.0 321.3 304.2 290.5 342.4 360.6 341.0 282.8 407.9 499.7	Per 100  Miner Years  0.2026 0.2778  0.3312 0.3112  0.0172 0.0292  - 0.0735			-
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013		Awarded (8)+(11) # 0.0000 1.0000 1.0000 - 1.0500 1.0000 - 0.0500 0.1000 - 0.3000	(\$M) \$ 18.4411 16.8078 12.9237 11.0466 11.9282 12.3597 12.1409 12.0653 14.8666 16.2202 15.8935 13.3192 19.5074 24.7347 20.7200	0.0595 0.0774 - 0.0880 0.0809 - 0.0041 0.0067 - - 0.0154	Average  Weekly Wage  588  611  644  662  675  690  716  745  779  807  836  845  858  888  917	1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Miner Years 562.6 493.5 360.0 299.3 317.0 321.3 304.2 290.5 342.4 360.6 341.0 282.8 407.9 499.7 405.3	Per 100 Miner Years  0.2026 0.2778  0.3312 0.3112  0.0172 0.0292  - 0.0735			
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014		Awarded (8)+(11) # 0.0000 1.0000 1.0000 - 1.0500 1.0000 - 0.0500 0.1000 - 0.3000 - 0.3000 - 0.0500	(\$M) \$ 18.4411 16.8078 12.9237 11.0466 11.9282 12.3597 12.1409 12.0653 14.8666 16.2202 15.8935 13.3192 19.5074 24.7347 20.7200 18.9113	0.0595 0.0774 - 0.0880 0.0809 - 0.0041 0.0067 - - 0.0154	Average  Weekly Wage  588  611  644  662  675  690  716  745  779  807  836  845  858  888  917  932	1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Miner Years 562.6 493.5 360.0 299.3 317.0 321.3 304.2 290.5 342.4 360.6 341.0 282.8 407.9 499.7 405.3 364.0	Per 100  Miner Years  0.2026 0.2778  0.3312 0.3112  0.0172 0.0292  - 0.0735			
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015		Awarded (8)+(11) # 0.0000 1.0000 1.0000 - 1.0500 1.0000 - 0.0500 0.1000 - 0.3000 - 0.0500	(\$M) \$ 18.4411 16.8078 12.9237 11.0466 11.9282 12.3597 12.1409 12.0653 14.8666 16.2202 15.8935 13.3192 19.5074 24.7347 20.7200 18.9113 22.2344	0.0595 0.0774 - 0.0880 0.0809 - 0.0041 0.0067 - 0.0154 -	Average  Weekly Wage  588  611  644  662  675  690  716  745  779  807  836  845  858  888  917  932  951	1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Miner  Years  562.6  493.5  360.0  299.3  317.0  321.3  304.2  290.5  342.4  360.6  341.0  282.8  407.9  499.7  405.3  364.0  419.4	Per 100  Miner Years  0.2026 0.2778  0.3312 0.3112  0.0172 0.0292  - 0.0735  - 0.0137			
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016		Awarded  (8)+(11) # 0.0000 1.0000 1.0000 - 1.0500 1.0000 - 0.0500 0.1000 - 0.3000 - 0.0500 0.1000	(\$M) \$ 18.4411 16.8078 12.9237 11.0466 11.9282 12.3597 12.1409 12.0653 14.8666 16.2202 15.8935 13.3192 19.5074 24.7347 20.7200 18.9113 22.2344 19.2571	0.0595 0.0774 - 0.0880 0.0809 - 0.0041 0.0067 - - 0.0154 - 0.0026	Average  Weekly Wage  588  611  644  662  675  690  716  745  779  807  836  845  858  888  917  932  951  978	1.072 1.072	Miner Years 562.6 493.5 360.0 299.3 317.0 321.3 304.2 290.5 342.4 360.6 341.0 282.8 407.9 499.7 405.3 364.0 419.4 353.2	Per 100  Miner Years  0.2026 0.2778  0.3312 0.3112  0.0172 0.0292  - 0.0735  - 0.0137  - 0.0029			
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017		Awarded  (8)+(11) # 0.0000 1.0000 1.0000 - 1.0500 1.0000 - 0.0500 0.1000 - 0.3000 - 0.0500 - 0.0102 0.0262	(\$M) \$ 18.4411 16.8078 12.9237 11.0466 11.9282 12.3597 12.1409 12.0653 14.8666 16.2202 15.8935 13.3192 19.5074 24.7347 20.7200 18.9113 22.2344 19.2571 19.0946	0.0595 0.0774 - 0.0880 0.0809 - 0.0041 0.0067 - 0.0154 - 0.0026 - 0.0005 0.0014	Average  Weekly Wage  588 611 644 662 675 690 716 745 779 807 836 845 858 888 917 932 951 978	1.072 1.072	Miner Years 562.6 493.5 360.0 299.3 317.0 321.3 304.2 290.5 342.4 360.6 341.0 282.8 407.9 499.7 405.3 364.0 419.4 353.2 344.3	Per 100  Miner Years			
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016		Awarded  (8)+(11) # 0.0000 1.0000 1.0000 - 1.0500 1.0000 - 0.0500 0.1000 - 0.3000 - 0.0500 0.1000	(\$M) \$ 18.4411 16.8078 12.9237 11.0466 11.9282 12.3597 12.1409 12.0653 14.8666 16.2202 15.8935 13.3192 19.5074 24.7347 20.7200 18.9113 22.2344 19.2571	0.0595 0.0774 - 0.0880 0.0809 - 0.0041 0.0067 - - 0.0154 - 0.0026	Average  Weekly Wage  588  611  644  662  675  690  716  745  779  807  836  845  858  888  917  932  951  978	1.072 1.072	Miner Years 562.6 493.5 360.0 299.3 317.0 321.3 304.2 290.5 342.4 360.6 341.0 282.8 407.9 499.7 405.3 364.0 419.4 353.2	Per 100  Miner Years  0.2026 0.2778  0.3312 0.3112  0.0172 0.0292  - 0.0735  - 0.0137  - 0.0029			

Sources: Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.15)xCol.(4);2000 & Prior

(0.05)xCol.(4);2001 & Subseq. Col.(7): (0.20)xCol.(6);2000 & Prior (1.00)xCol.(6);2001 & Subseq.

Col.(10): 40% of Exh. VII-C-1 thru VII-C-6

Col.(13): Exh. X-A

Col.(15): Exhibit XII-D Col.(16): Exhibit X-G

Col.(17): (13) / ( (15) x (16) x 52 ) times 1000000

Col.(18): (12) / (17) x 100

IBNR Award Ratio (2000 & Prior): 0.3533

#### **BITUMINOUS SURFACE(0156)**

		Co	ounts								_
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
V	Reported	Awarded	Pending	Denied	Pending Awarded	Denied Reopened	Denied Awarded	Ultimate Awarded	Ultimate Denied	IBNR	IBNR Awarded
Year 1999	# 1	# 0	# 0	# 1	(3) * 30% # 0.00	# 0 15	# 0.03	<u>(2)+(5)+(7)</u>	<u>(1)-(8)</u> # 0.07	# 0.0000	(10)xAwd Ratio
2000	# 1	# 0	# 0	# 1	# 0.00	# 0.15	# 0.03	# 0.03	# 0.97	# 0.0000	# 0.0000
2001	_	_	_	_	-	-	_	-	_	_	-
2002	_	_	-	-	-	-	_	-	_	_	-
2003	-	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005	-	-	-	-	-	-	-	-	-	-	-
2006	-	-	-	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009 2010	-	-	-	-	-	-	-	-	-	-	-
2010	-	-	_	-	-	-	-	-	-	-	-
2012	2	_	_	2	-	0.10	0.10	0.10	1.90	_	_
2013	-	_	_	-	-	-	-	-	-	-	-
2014	2	1	-	1	-	0.05	0.05	1.05	0.95	-	-
2015	1	-	-	1	-	0.05	0.05	0.05	0.95	0.0165	0.0059
2016	-	-	-	-	-	-	-	-	-	0.0337	0.0120
2017	-	-	-	-	-	-	-	-	-	0.0705	0.0250
<u>2018</u>	<del></del>									0.1141	0.0405
Total	6	1	-	5	-	0.35	0.23	1.23	4.77	0.2349	0.0834
		(10)	(10)	(1.4)	(15)	(1.4)	(17)	(10)			
		(12)	(13)	(14)	(15)	(16)	(17)	(18)			
		Total	Payroll		Statewide		Estimated	Frequency			
		Awarded	(\$M)	Frequency	Average	Adjustment	Miner	Per 100			-
Year		(8)+(11)		(12)/(13)	Weekly Wage	<u>Factor</u>	<u>Years</u>	Miner Years			
1999		# 0.0300	\$ 54.1623	0.0006	588	1.072	1,652.4	0.0018			
2000		-	49.9356	-	611	1.072	1,466.1	-			
2001		-	58.1513	-	644	1.072	1,619.9	-			
2002		-	53.5021	-	662	1.072	1,449.8	-			
2003		-	47.8737	-	675	1.072	1,272.3	-			
2004		_	56.2173	-	690	1.072	1,461.6	-			
2005		_	64.8716	-	716		1,625.3	-			
2006		_	63.7985	_	745	1.072	1,536.2	-			
2007		_	64.8081	_	779	1.072	1,492.4	-			
2008		_	74.6012	_	807	1.072	1,658.3	_			
2009		_	63.3067	_	836	1.072	1,358.5	_			
2010			74.2552	_	845	1.072	1,576.4	_			
2010		-	87.7305	-	858		1,834.3	-			
2011		0.1000	77.8905	0.0013	888			0.0064			
							1,573.5				
2013		1.0500	62.7181	- 0.0100	917		1,226.9	- 0.0005			
2014		1.0500	55.3686	0.0190	932		1,065.7	0.0985			
2015		0.0559	42.0001	0.0013	951	1.072	792.3	0.0071			
2016		0.0120	30.1312	0.0004	978	1.072	552.7	0.0022			
2017		0.0250	34.2490	0.0007	995		617.5	0.0041			
2018		0.0405	36.1104	0.0011	1,025	1.072	632.0	0.0064			
Total		1.3134	1,151.6820	0.0011			26,464.1	0.0050			

Sources: Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.15)xCol.(4);2000 & Prior (0.05)xCol.(4);2001 & Subseq.

Col.(7): (0.20)xCol.(6);2000 & Prior (1.00)xCol.(6);2001 & Subseq.

Col.(10): 40% of Exh. VII-C-1 thru VII-C-6

Col.(13): Exh. X-A

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Run Date: September 23, 2019 - 09:21:47 AM

IBNR Award Ratio (2000 & Prior): 0.3533

IBNR Award Ratio(2001 & Subseq.): 0.3549

Col.(15): Exhibit XII-D Col.(16): Exhibit X-G

Col.(17): (13) / ( (15) x (16) x 52 )

times 1000000 Col.(18): (12) / (17) x 100

#### FOUR STANDARD CLASSES

		C	ounts								
	(1)	(2)	(3)	(4)	(5) Pending	(6) Denied	(7) Denied	(8) Ultimate	(9) Ultimate	(10)	(11) IBNR
Year	Reported	Awarded	Pending	Denied	Awarded (3) * 30%	Reopened		Awarded (2)+(5)+(7)	Denied (1)-(8)	IBNR	Awarded (10)xAwd Ratio
1999	# 4	# 1	# 0	# 3	# 0.00	# 0.45	# 0.09	# 1.09	# 2.91	# 0.0000	# 0.0000
2000	4	2	_	2	-	0.30	0.06	2.06	1.94	-	-
2001	3	2	-	1	-	0.05	0.05	2.05	0.95	-	-
2002	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2003	2	1	-	1	-	0.05	0.05	1.05	0.95	-	-
2004	2	1	-	1	-	0.05	0.05	1.05	0.95	-	-
2005	1	I	-	-	-	0.05	- 0.05	1.00	0.95	-	-
2006 2007	1 2	-	-	2	-	0.05 0.10	0.05 0.10	0.05 0.10	1.90	-	-
2007	2	1	_	1	-	0.10	0.10	1.05	0.95	-	-
2009	_	' -	_	-	_	0.05	-	-	0.75	_	_
2010	1	1	_	_	-	_	_	1.00	_	_	_
2011	3	2	1	-	0.30	-	-	2.30	0.70	-	-
2012	6	1	-	5	-	0.25	0.25	1.25	4.75	0.0492	0.0174
2013	7	1	1	5	0.30	0.25	0.25	1.55	5.45	0.1432	0.0508
2014	5	1	1	3	0.30	0.15	0.15	1.45	3.55	0.5446	0.1933
2015	4	-	2	2	0.60	0.10	0.10	0.70	3.30	0.7447	0.2643
2016	3	-	2	1	0.60	0.05	0.05	0.65	2.35	0.7837	0.2781
2017	-	-	-	-	- 0.40	-	-	- 0.40	1.40	1.4244	0.5055
<u>2018</u> Total	<u>2</u> 53	15	2	29	<u>0.60</u> 2.70	1.95	1.35	0.60 19.05	1.40 33.95	<u>2.5011</u> 6.1908	<u>0.8876</u> 2.1971
Year 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010		Total Awarded (8)+(11) # 1.0900 2.0600 2.0500 0.0500 1.0500 1.0000 0.0500 0.1000 1.0500	Payroll (\$M)  \$ 133.1028 115.6342 121.2341 106.7732 97.6546 115.9962 144.7059 147.7722 161.2415 194.3121 181.8842 214.2474	Frequency (12)/(13) 0.0082 0.0178 0.0169 0.0005 0.0108 0.0091 0.0069 0.0003 0.0006 0.0054	Statewide Average  Weekly Wage  588 611 644 662 675 690 716 745 779 807 836 845	Adjustment <u>Factor</u>	Years 3,509.4 2,965.4 2,960.9 2,552.6 2,296.6 2,646.9 3,114.2 3,035.7 3,146.5 3,625.6 3,233.3	Per 100  Miner Years 0.0311 0.0695 0.0692 0.0020 0.0457 0.0397 0.0321 0.0016 0.0032 0.0290			-
		1.0000	214.2676	0.0047			3,729.1	0.0268			
2011		2.3000	256.9815	0.0090	858		4,417.0	0.0521			
2012		1.2674	257.2734	0.0049	888		4,241.7	0.0299			
2013		1.6008	228.9663	0.0070	917		3,604.8	0.0444			
2014		1.6433	257.9707	0.0064	932		3,878.2	0.0424			
2015		0.9643	205.0591	0.0047	951		3,051.6	0.0316			
2016		0.9281	168.0976	0.0055	978		2,413.7	0.0385			
2017		0.5055	226.3968	0.0022	995		3,122.5	0.0162			
2018		1.4876	234.3730	0.0063	1,025		3,133.2	0.0475			
Total		21.2471	3,569.6970	0.0060			64,678.9	0.0329			

Sources: Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.15)xCol.(4);2000 & Prior (0.05)xCol.(4);2001 & Subseq. Col.(7): (0.20)xCol.(6);2000 & Prior

(1.00)xCol.(6);2001 & Subseq.

Col.(10): 40% of Exh. VII-C-1 thru VII-C-6 Col.(13): Sum of Pages 1 to 4

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Run Date: September 23, 2019 - 09:21:47 AM

IBNR Award Ratio (2000 & Prior): 0.3533

IBNR Award Ratio(2001 & Subseq.): 0.3549

Col.(15): Exhibit XII-D Col.(16): N/A

Col.(17): Total of 4 std. classes

Col.(18): (12) / (17) x 100

#### COKE(0154)

		Co	ounts								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Year	Reported	Awarded	Pending	Denied	Pending Awarded (3) * 30%	Denied Reopened	Denied Awarded	Ultimate Awarded (2)+(5)+(7)	Ultimate Denied (1)-(8)	IBNR	IBNR Awarded (10)xAwd Ratio
1999	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00	# 0.00	# 0.00	# 0.0000	# 0.0000
2000	-	-	-	-	-	-	-	-	-	-	-
2001	-	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005 2006	-	-	-	-	-	-	-	-	-	-	-
2006	_	-	-	-	-	_	-	_	_	-	-
2007	_	-	_	-	-	_	_	_	_	_	-
2009	_	_	_	_	-	_	_	_	_	_	_
2010	_	-	-	-	-	-	-	-	_	_	-
2011	-	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	0.0004	0.0002
2013	-	-	-	-	-	-	-	-	-	0.0013	0.0005
2014	-	-	-	-	-	-	-	-	-	0.0024	0.0008
2015	-	-	-	-	-	-	-	-	-	0.0036	0.0013
2016	-	-	-	-	-	-	-	-	-	0.0056	0.0020
2017	-	-	-	-	-	-	-	-	-	0.0089	0.0032 0.0042
<u>2018</u> Total										0.0118	0.0121
Year 1999 2000 2001 2002 2003 2004 2005 2006 2007		Awarded (8)+(11) # 0.0000	(\$M) \$ 12.2935 12.0926 10.3758 10.4850 11.5341 12.0491 12.8610 12.7374 13.6699	Frequency (12)/(13)	Average  Weekly Wage  588  611  644  662  675  690  716  745  779	1.072 1.072 1.072 1.072	Miner Years 375.1 355.0 289.0 284.1 306.5 313.3 322.2 306.7 314.8	Per 100 Miner Years			_
2008		_	9.7611	_	807	1.072	217.0	_			
2009		_	5.1736	_	836	1.072	111.0	_			
2010		_	5.4357	_	845	1.072	115.4	_			
2010		-	3.5991	-	858		75.3	-			
2012		0.0002	5.7381	0.0000	888	1.072	115.9	0.0001			
2013		0.0005	4.7919	0.0001	917		93.7	0.0005			
2014		0.0008	4.4644	0.0002	932		85.9	0.0010			
2015		0.0013	4.3404	0.0003	951	1.072	81.9	0.0016			
2016		0.0020	4.4351	0.0005	978	1.072	81.4	0.0025			
2017		0.0032	4.5661	0.0007	995	1.072	82.3	0.0038			
<u>2018</u>		0.0042	4.4568	0.0009	1,025	1.072	78.0	0.0054			
Total		0.0121	164.8607	0.0001			4,004.5	0.0003			

Sources: Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.15)xCol.(4);2000 & Prior (0.05)xCol.(4);2001 & Subseq.

Col.(7): (0.20)xCol.(6);2000 & Prior (1.00)xCol.(6);2001 & Subseq.

Col.(10): 40% of Exh. VII-C-1 thru VII-C-6

Col.(13): Exh. X-A

Col.(15): Exhibit XII-D Col.(16): Exhibit X-G

Col.(17): (13) / ( (15) x (16) x 52 )

times 1000000 Col.(18): (12) / (17) x 100

IBNR Award Ratio (2000 & Prior): 0.3533

#### AUGER(0157)

		Co	ounts								
	(1)	(2)	(3)	(4)	(5) Pending	(6) Denied	(7) Denied	(8) Ultimate	(9) Ultimate	(10)	(11) IBNR
Year	Reported	Awarded	Pending	Denied	Awarded (3) * 30%	Reopened	Awarded	Awarded (2)+(5)+(7)	Denied (1)-(8)	IBNR	Awarded (10)xAwd Ratio
1999	# 0	# 0	# 0	# 0	# 0.00	# 0.00	# 0.00	# 0.00	# 0.00	# 0.0000	# 0.0000
2000	-	-	-	-	-	-	-	-	-	-	-
2001	-	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005 2006	-	_	-	-	-	-	-	-	_	_	-
2007	_	_	_	_	_	_	_	_	_	_	_
2008	_	_	_	_	-	_	_	_	_	_	_
2009	-	-	-	-	-	-	-	-	_	-	-
2010	-	-	-	-	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	0.0001	0.0000
2013	-	-	-	-	-	-	-	-	-	0.0003	0.0001
2014	-	-	-	-	-	-	-	-	-	0.0004	0.0002
2015	-	-	-	-	-	-	-	-	-	0.0005	0.0002
2016 2017	-	-	-	-	-	-	-	-	-	0.0005 0.0009	0.0002 0.0003
2017	-	-	-	-	-	-	-	-	_	0.0007	0.0005
Total										0.0041	0.0015
Year		Total Awarded (8)+(11)	Payroll (\$M)	Frequency (12)/(13)	Statewide Average Weekly Wage	Adjustment Factor	Estimated  Miner  Years	Frequency Per 100 Miner Years			-
1999		# 0.0000	\$ 1.1369	112//(10/	588	1.072	34.7	-			
2000		-	1.2059	_	611	1.072	35.4	_			
2001		_	1.4291	_	644	1.072	39.8	_			
2002		_	1.1508	_	662		31.2	_			
2003		_	1.1022	_	675	1.072	29.3	_			
2004		_	1.0588	_	690	1.072	27.5	_			
2005		_	1.0265	_	716		25.7	_			
2006		_	1.0668	_	745	1.072	25.7	_			
2007		_	1.1212	_	779	1.072	25.8	_			
2008		_	2.5068	_	807	1.072	55.7	_			
2009		-	0.9470	_	836	1.072	20.3	_			
2010		-	0.7470	_	845	1.072	17.6	_			
2010		-	1.1763	-	858		24.6	-			
2011		0.0000	0.8082	0.0000	888		16.3	0.0002			
2013		0.0001	1.0469	0.0001	917		20.5	0.0005			
2014		0.0002	0.8616	0.0002	932		16.6	0.0009			
2015		0.0002	0.6548	0.0003	951	1.072	12.4	0.0014			
2016		0.0002	0.3928	0.0004	978		7.2	0.0024			
2017		0.0003	0.5663	0.0006	995		10.2	0.0031			
<u>2018</u>		0.0005	0.5601	0.0009	1,025	1.072	9.8	0.0054			
Total		0.0015	20.6465	0.0001			486.3	0.0003			

Sources: Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.15)xCol.(4);2000 & Prior (0.05)xCol.(4);2001 & Subseq.

Col.(7): (0.20)xCol.(6);2000 & Prior (1.00)xCol.(6);2001 & Subseq.

Col.(10): 40% of Exh. VII-C-1 thru VII-C-6

Col.(13): Exh. X-A

Col.(15): Exhibit XII-D

Col.(16): Exhibit X-G

Col.(17): (13) / ( (15) x (16) x 52 )

times 1000000 Col.(18): (12) / (17) x 100

IBNR Award Ratio (2000 & Prior): 0.3533

#### Page 8

#### ANTHRACITE CO-GEN(0181)

		Co	ounts								
	(1)	(2)	(3)	(4)	(5) Pending	(6) Denied	(7) Denied	(8) Ultimate	(9) Ultimate	(10)	(11) IBNR
Year	Reported	Awarded	Pending	Denied	Awarded (3) * 30%	Reopened	Awarded	Awarded (2)+(5)+(7)	Denied (1)-(8)	IBNR	Awarded (10)xAwd Ratio
1999	# 0	# 0	# O	# 0	# 0.00	# 0.00	# 0.00	# 0.00	# 0.00	# 0.0000	# 0.0000
2000	-	-	-	-	-	-	-	-	-	-	-
2001	-	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-	-
2003	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005 2006	-	-	-	-	-	-	-	-	-	-	-
2007	_	_	_		_		_				_
2008	_	_	_	_	_	_	_	_	_	_	_
2009	_	_	_	_	-	_	_	_	_	_	_
2010	-	-	-	-	-	_	-	-	_	-	-
2011	-	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	0.0008	0.0003
2013	-	-	-	-	-	-	-	-	-	0.0022	0.0008
2014	-	-	-	-	-	-	-	-	-	0.0048	0.0017
2015	-	-	-	-	-	-	-	-	-	0.0088	0.0031
2016	-	-	-	-	-	-	-	-	-	0.0115	0.0041
2017 2018	-	-	-	-	-	-	-	-	-	0.0172	0.0061 0.0108
<u>zora</u> Total						0.05	0.05	0.05	0.95	0.0306	0.0269
		(12) Total Awarded	(13) Payroll (\$M)	(14) Frequency	(15) Statewide Average	(16) Adjustment	(17) Estimated Miner	(18) Frequency Per 100			
			(ÞIVI)		_	-					-
Year		<u>(8)+(11)</u>		(12)/(13)	Weekly Wage		<u>Years</u>	Miner Years			
1999		# 0.0000	\$ 3.6043	-	588		110.0	-			
2000		-	4.4735	-	611	1.072	131.3	-			
2001		-	4.6618	-	644		129.9	-			
2002		-	5.6588	-	662		153.3	-			
2003		0.0500	7.0096	0.0071	675		186.3	0.0268			
2004		-	7.3515	-	690		191.1	-			
2005		-	7.8553	-	716		196.8	-			
2006		-	8.4125	-	745		202.6	-			
2007		-	9.1867	-	779	1.072	211.6	-			
2008		-	7.5214	-	807	1.072	167.2	-			
2009		-	7.5347	-	836	1.072	161.7	-			
2010		-	7.9580	-	845	1.072	168.9	-			
2011		-	10.9816	-	858	1.072	229.6	-			
2012		0.0003	9.3118	0.0000	888	1.072	188.1	0.0002			
2013		0.0008	7.6308	0.0001	917		149.3	0.0005			
2014		0.0017	8.3609	0.0002	932		160.9	0.0010			
2015		0.0031	9.5548	0.0003	951		180.2	0.0017			
2016		0.0041	7.9533	0.0005	978		145.9	0.0028			
2017		0.0061	7.7936	0.0008	995		140.5	0.0044			
2018		0.0108	10.0184	0.0011	1,025		175.3	0.0062			
<u>zoto</u> Total		0.0769	152.8333	0.0005	1,020	1.07 Z	3,380.5	0.0023			
10101		0.0/0/	102.0000	0.0003			5,500.5	0.0023			

Sources: Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.15)xCol.(4);2000 & Prior (0.05)xCol.(4);2001 & Subseq.

Col.(7): (0.20)xCol.(6);2000 & Prior (1.00)xCol.(6);2001 & Subseq.

Col.(10): 40% of Exh. VII-C-1 thru VII-C-6

Col.(13): Exh. X-A

Col.(15): Exhibit XII-D Col.(16): Exhibit X-G

Col.(17): (13) / ( (15) x (16) x 52 ) times 1000000

Col.(18): (12) / (17) x 100

IBNR Award Ratio (2000 & Prior): 0.3533

#### **BITUMINOUS CO-GEN(0182)**

	-		ounts								
	(1)	(2)	(3)	(4)	(5) Pending	(6) Denied	(7) Denied	(8) Ultimate	(9) Ultimate	(10)	(11) IBNR
Year	Reported	Awarded	Pending	Denied	Awarded (3) * 30%	Reopened	Awarded	Awarded (2)+(5)+(7)	Denied (1)-(8)	IBNR	Awarded (10)xAwd Ratio
1999	# O	# 0	# 0	# O	# 0.00	# 0.00	# 0.00	# 0.00	# 0.00	# 0.0000	# 0.0000
2000	-	-	-	-	-	-	-	-	-	-	-
2001	-	-	-	-	-	-	-	-	-	-	-
2002 2003	-	-	-	-	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	_	_	-
2004	_	_	_	-	_	-	-	_	_	_	-
2006	-	_	-	-	-	-	_	-	_	-	-
2007	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-	-	-	- 0.0007	0.0003
2012 2013	-	-	-	-	-	-	-	-	-	0.0007 0.0027	0.0003 0.0010
2013	_	_	_	-	_	-	-	_	_	0.0027	0.0010
2015	_	_	_	_	_	_	_	_	-	0.0099	0.0035
2016	-	-	-	-	-	-	-	-	-	0.0144	0.0051
2017	-	-	-	-	-	-	-	-	-	0.0223	0.0079
2018										0.0316	0.0112
Total	1	-	-	1	-	0.05	0.05	0.05	0.95	0.0879	0.0312
		(4.0)	(1.0)		()			(4.0)			
		(12) Total	(13) Payroll	(14)	(15) Statewide	(16)	(17) Estimated	(18)			
				_				Frequency			
		Awarded	(\$M)	Frequency	Δνατασα						
			(4111)		Average	Adjustment	Miner	Per 100			
Year		<u>(8)+(11)</u>		(12)/(13)	Weekly Wage	<u>Factor</u>	<u>Years</u>	Miner Years			-
1999			\$1.4943		Weekly Wage 588	Factor 1.072	<u>Years</u> 45.6				-
1999 2000		<u>(8)+(11)</u>	\$ 1.4943 1.8707	(12)/(13)	Weekly Wage 588 611	<u>Factor</u> 1.072 1.072	<u>Years</u> 45.6 54.9				-
1999 2000 2001		(8)+(11) # 0.0000	\$ 1.4943 1.8707 2.1213	(12)/(13)	Weekly Wage 588 611 644	Factor 1.072 1.072 1.072	<u>Years</u> 45.6 54.9 59.1				-
1999 2000 2001 2002		(8)+(11) # 0.0000	\$ 1.4943 1.8707 2.1213 2.3861	(12)/(13)	Weekly Wage 588 611 644 662	Factor 1.072 1.072 1.072 1.072	<u>Years</u> 45.6 54.9 59.1 64.7				-
1999 2000 2001		(8)+(11) # 0.0000 -	\$ 1.4943 1.8707 2.1213	(12)/(13)	Weekly Wage 588 611 644	1.072 1.072 1.072 1.072 1.072 1.072	<u>Years</u> 45.6 54.9 59.1				-
1999 2000 2001 2002 2003 2004		(8)+(11) # 0.0000 -	\$ 1.4943 1.8707 2.1213 2.3861 3.0525 6.3745	(12)/(13)	Weekly Wage 588 611 644 662	1.072 1.072 1.072 1.072 1.072 1.072 1.072	Years 45.6 54.9 59.1 64.7 81.1 165.7				-
1999 2000 2001 2002 2003		(8)+(11) # 0.0000 - - -	\$ 1.4943 1.8707 2.1213 2.3861 3.0525 6.3745 8.5248	(12)/(13)	Weekly Wage 588 611 644 662 675	1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	<u>Years</u> 45.6 54.9 59.1 64.7 81.1				-
1999 2000 2001 2002 2003 2004		(8)+(11) # 0.0000 - - - -	\$ 1.4943 1.8707 2.1213 2.3861 3.0525 6.3745	(12)/(13)	Weekly Wage 588 611 644 662 675 690	1.072 1.072 1.072 1.072 1.072 1.072 1.072	Years 45.6 54.9 59.1 64.7 81.1 165.7				-
1999 2000 2001 2002 2003 2004 2005		(8)+(11) # 0.0000 - - - - -	\$ 1.4943 1.8707 2.1213 2.3861 3.0525 6.3745 8.5248	(12)/(13)	Weekly Wage 588 611 644 662 675 690 716	1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Years 45.6 54.9 59.1 64.7 81.1 165.7 213.6				-
1999 2000 2001 2002 2003 2004 2005 2006		(8)+(11) # 0.0000 - - - - - -	\$ 1.4943 1.8707 2.1213 2.3861 3.0525 6.3745 8.5248 9.4236	(12)/(13)	Weekly Wage 588 611 644 662 675 690 716 745	1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Years 45.6 54.9 59.1 64.7 81.1 165.7 213.6 226.9	Miner Years			-
1999 2000 2001 2002 2003 2004 2005 2006 2007		(8)+(11) # 0.0000 - - - - - - - 0.0500	\$ 1.4943 1.8707 2.1213 2.3861 3.0525 6.3745 8.5248 9.4236 10.8291	(12)/(13)	Weekly Wage 588 611 644 662 675 690 716 745 779	1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Years 45.6 54.9 59.1 64.7 81.1 165.7 213.6 226.9 249.4	Miner Years			-
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008		(8)+(11) # 0.0000 - - - - - - - 0.0500	\$ 1.4943 1.8707 2.1213 2.3861 3.0525 6.3745 8.5248 9.4236 10.8291 8.4819	(12)/(13)	Weekly Wage 588 611 644 662 675 690 716 745 779 807	1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Years 45.6 54.9 59.1 64.7 81.1 165.7 213.6 226.9 249.4 188.5	Miner Years			
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009		(8)+(11) # 0.0000 - - - - - - - 0.0500	\$ 1.4943 1.8707 2.1213 2.3861 3.0525 6.3745 8.5248 9.4236 10.8291 8.4819 7.8664	(12)/(13)	Weekly Wage 588 611 644 662 675 690 716 745 779 807 836	1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Years 45.6 54.9 59.1 64.7 81.1 165.7 213.6 226.9 249.4 188.5 168.8	Miner Years			
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010		(8)+(11) # 0.0000 - - - - - 0.0500 - -	\$ 1.4943 1.8707 2.1213 2.3861 3.0525 6.3745 8.5248 9.4236 10.8291 8.4819 7.8664 8.7327	(12)/(13) 0.0046	Weekly Wage 588 611 644 662 675 690 716 745 779 807 836	1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Years 45.6 54.9 59.1 64.7 81.1 165.7 213.6 226.9 249.4 188.5 168.8 185.4	Miner Years 0.0200			
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012		(8)+(11) # 0.0000 - - - - - 0.0500 - - - - 0.0003	\$ 1.4943 1.8707 2.1213 2.3861 3.0525 6.3745 8.5248 9.4236 10.8291 8.4819 7.8664 8.7327 9.1024 9.0477	(12)/(13) 0.0046 0.0000	Weekly Wage 588 611 644 662 675 690 716 745 779 807 836 845 858	1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Years 45.6 54.9 59.1 64.7 81.1 165.7 213.6 226.9 249.4 188.5 168.8 185.4 190.3 182.8	Miner Years 0.0200 0.0001			
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013		(8)+(11) # 0.0000 - - - - - 0.0500 - - - 0.0003 0.0010	\$ 1.4943 1.8707 2.1213 2.3861 3.0525 6.3745 8.5248 9.4236 10.8291 8.4819 7.8664 8.7327 9.1024 9.0477 10.3559	(12)/(13) 0.0046 0.0000 0.0001	Weekly Wage 588 611 644 662 675 690 716 745 779 807 836 845 858 888 917	1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Years 45.6 54.9 59.1 64.7 81.1 165.7 213.6 226.9 249.4 188.5 168.8 185.4 190.3 182.8 202.6	Miner Years 0.0200 0.0001 0.0005			
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014		(8)+(11) # 0.0000 - - - - 0.0500 - - - 0.0003 0.0010 0.0022	\$ 1.4943 1.8707 2.1213 2.3861 3.0525 6.3745 8.5248 9.4236 10.8291 8.4819 7.8664 8.7327 9.1024 9.0477 10.3559 11.7212	(12)/(13) 0.0046 0.0000 0.0001 0.0002	Weekly Wage 588 611 644 662 675 690 716 745 779 807 836 845 858 888 917 932	1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Years 45.6 54.9 59.1 64.7 81.1 165.7 213.6 226.9 249.4 188.5 168.8 185.4 190.3 182.8 202.6 225.6	Miner Years 0.0200 0.0001 0.0005 0.0010			
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015		(8)+(11) # 0.0000 - - - - 0.0500 - - - 0.0003 0.0010 0.0022 0.0035	\$ 1.4943 1.8707 2.1213 2.3861 3.0525 6.3745 8.5248 9.4236 10.8291 8.4819 7.8664 8.7327 9.1024 9.0477 10.3559 11.7212 11.7482	(12)/(13) 0.0046 0.0000 0.0001 0.0002 0.0003	Weekly Wage 588 611 644 662 675 690 716 745 779 807 836 845 858 888 917 932 951	1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Years 45.6 54.9 59.1 64.7 81.1 165.7 213.6 226.9 249.4 188.5 168.8 185.4 190.3 182.8 202.6 225.6 221.6	Miner Years 0.0200 0.0001 0.0005 0.0010 0.0016			
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016		(8)+(11) # 0.0000 - - - - 0.0500 - - - 0.0003 0.0010 0.0022 0.0035 0.0051	\$ 1.4943 1.8707 2.1213 2.3861 3.0525 6.3745 8.5248 9.4236 10.8291 8.4819 7.8664 8.7327 9.1024 9.0477 10.3559 11.7212 11.7482 11.3276	(12)/(13) 0.0046 0.0000 0.0001 0.0002 0.0003 0.0005	Weekly Wage 588 611 644 662 675 690 716 745 779 807 836 845 858 888 917 932 951 978	1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Years 45.6 54.9 59.1 64.7 81.1 165.7 213.6 226.9 249.4 188.5 168.8 185.4 190.3 182.8 202.6 225.6 221.6 207.8	Miner Years 0.0200 0.0001 0.0005 0.0010 0.0016 0.0025			
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017		(8)+(11) # 0.0000 - - - - 0.0500 - - - 0.0003 0.0010 0.0022 0.0035 0.0051 0.0079	\$ 1.4943 1.8707 2.1213 2.3861 3.0525 6.3745 8.5248 9.4236 10.8291 8.4819 7.8664 8.7327 9.1024 9.0477 10.3559 11.7212 11.7482 11.3276 11.4351	(12)/(13) 0.0046 0.0000 0.0001 0.0002 0.0003 0.0005 0.0007	Weekly Wage 588 611 644 662 675 690 716 745 779 807 836 845 858 888 917 932 951 978	1.072 1.072	Years 45.6 54.9 59.1 64.7 81.1 165.7 213.6 226.9 249.4 188.5 168.8 185.4 190.3 182.8 202.6 225.6 221.6 207.8 206.2	Miner Years			
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016		(8)+(11) # 0.0000 - - - - 0.0500 - - - 0.0003 0.0010 0.0022 0.0035 0.0051	\$ 1.4943 1.8707 2.1213 2.3861 3.0525 6.3745 8.5248 9.4236 10.8291 8.4819 7.8664 8.7327 9.1024 9.0477 10.3559 11.7212 11.7482 11.3276	(12)/(13) 0.0046 0.0000 0.0001 0.0002 0.0003 0.0005	Weekly Wage 588 611 644 662 675 690 716 745 779 807 836 845 858 888 917 932 951 978	1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072 1.072	Years 45.6 54.9 59.1 64.7 81.1 165.7 213.6 226.9 249.4 188.5 168.8 185.4 190.3 182.8 202.6 225.6 221.6 207.8	Miner Years 0.0200 0.0001 0.0005 0.0010 0.0016 0.0025			

Sources: Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.15)xCol.(4);2000 & Prior (0.05)xCol.(4);2001 & Subseq.

Col.(7): (0.20)xCol.(6);2000 & Prior (1.00)xCol.(6);2001 & Subseq.

Col.(10): 40% of Exh. VII-C-1 thru VII-C-6

Col.(13): Exh. X-A

Col.(15): Exhibit XII-D Col.(16): Exhibit X-G

Col.(17): (13) / ( (15) x (16) x 52 )

times 1000000 Col.(18): (12) / (17) x 100

IBNR Award Ratio (2000 & Prior): 0.3533

#### ANTHRACITE PREP PLANT(0183)

			ounts								
	(1)	(2)	(3)	(4)	(5) Pending	(6) Denied	(7) Denied	(8) Ultimate	(9) Ultimate	(10)	(11) IBNR
Year	Reported	Awarded	Pending	Denied	Awarded (3) * 30%	Reopened	Awarded	Awarded (2)+(5)+(7)	Denied (1)-(8)	IBNR	Awarded (10)xAwd Ratio
1999	# O	# 0	# O	# O	# 0.00	# 0.00	# 0.00	# 0.00	# 0.00	# 0.0000	# 0.0000
2000	-	-	-	-	-	-	-	-	-	-	-
2001	-	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	-	-	-
2004 2005	-	-	-	-	-	-	-	-	-	-	-
2006	_	_	_	_	-	_	-	_	_	_	_
2007	1	_	_	1	_	0.05	0.05	0.05	0.95	_	_
2008	-	_	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	-	-
2010	1	1	-	-	-	-	-	1.00	-	-	-
2011	-	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	0.0017	0.0006
2013	-	-	-	-	-	-	-	-	- 0.05	0.0054	0.0019
2014 2015	1	-	-	I	-	0.05	0.05	0.05	0.95	0.0108 0.0160	0.0038
2015	-		-	-	-	-	-	1.00	-	0.0160	0.0057 0.0079
2017	_	_	-	_	_	-	_	_	_	0.0224	0.0134
2018	_	_	_	_	_	_	_	_	_	0.0636	0.0226
Total	4	2		2		0.10	0.10	2.10	1.90	0.1578	0.0560
		(12)	(13)	(14)	(15)	(16)	(17)	(18)			
		Total	Payroll	,	Statewide	,	Estimated	Frequency			
		Awarded	(\$M)	Frequency	Average	Adjustment	Miner	Per 100			-
Year		(8)+(11)		(12)/(13)	Weekly Wage	<u>Factor</u>	<u>Years</u>	Miner Years			
1999		# 0.0000	\$ 1.2311	-	588	1.072	37.6	-			
2000		-	1.3195	-	611	1.072	38.7	-			
2001		-	2.2163	-	644	1.072	61.7	-			
2002		-	2.3228	-	662	1.072	62.9	-			
2003		-	3.4080	-	675	1.072	90.6	-			
2004		-	4.4067	-	690	1.072	114.6	-			
2005		_	5.1701	-	716	1.072	129.5	-			
2006		_	4.8859	-	745	1.072	117.6	_			
2007		0.0500	5.8173	0.0086	779	1.072	134.0	0.0373			
2008		-	5.7335	_	807	1.072	127.5	_			
2009		_	6.2646	_	836	1.072	134.4	_			
2010		1.0000	4.8769	0.2050	845	1.072	103.5	0.9662			
2010		-	6.1233	-	858	1.072	128.0	-			
2011		0.0006	7.5690	0.0001	888	1.072	152.9	0.0004			
2012		0.0008	7.0749	0.0001	917	1.072	138.4	0.0014			
2013		0.0538					125.5	0.0014			
		บบวงดี	6.5215	0.0083	932	1.072					
			4 10//	0.1/00	0.51	1 070	11/0				
2015		1.0057	6.1966	0.1623	951	1.072	116.9	0.8603			
2015 2016		1.0057 0.0079	5.5430	0.0014	978	1.072	101.7	0.0078			
2015 2016 2017		1.0057 0.0079 0.0134	5.5430 6.0568	0.0014 0.0022	978 995	1.072 1.072	101.7 109.2	0.0078 0.0123			
2015 2016		1.0057 0.0079	5.5430	0.0014	978	1.072	101.7	0.0078			

Sources: Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.15)xCol.(4);2000 & Prior (0.05)xCol.(4);2001 & Subseq.

Col.(7): (0.20)xCol.(6);2000 & Prior (1.00)xCol.(6);2001 & Subseq.

Col.(10): 40% of Exh. VII-C-1 thru VII-C-6

Col.(13): Exh. X-A

File: k:\OneDrive\Clients\Coal Mine\2019 Rate Filing\XL\[2019-07-L.xlsm]p 10 Run Date: September 23, 2019 - 09:21:47 AM

IBNR Award Ratio (2000 & Prior): 0.3533

IBNR Award Ratio(2001 & Subseq.): 0.3549

Col.(15): Exhibit XII-D Col.(16): Exhibit X-G

Col.(17): (13) / ((15) x (16) x 52)

times 1000000 Col.(18): (12) / (17) x 100

#### **BITUMINOUS PREP PLANT(0184)**

			ounts								
	(1)	(2)	(3)	(4)	(5) Pending	(6) Denied	(7) Denied	(8) Ultimate	(9) Ultimate	(10)	(11) IBNR
Year	Reported	Awarded	Pending	Denied	Awarded (3) * 30%	Reopened	Awarded	Awarded (2)+(5)+(7)	Denied (1)-(8)	IBNR	Awarded (10)xAwd Ratio
1999	# 0	# 0	# O	# 0	# 0.00	# 0.00	# 0.00	# 0.00	# 0.00	# 0.0000	# 0.0000
2000	1	-	-	1	-	0.15	0.03	0.03	0.97	-	-
2001	-	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-	-
2003	-	-	-	-	-	-	-	-	-	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005 2006	-	-	-	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-	_	-	-
2007	_	_	_	-	-	_	-	_	_	_	_
2009	_	_	_	_	_	_	_	_	_	_	_
2010	_	_	_	_	_	_	_	_	_	_	_
2011	-	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	0.0027	0.0010
2013	-	-	-	-	-	-	-	-	-	0.0090	0.0032
2014	-	-	-	-	-	-	-	-	-	0.0229	0.0081
2015	-	-	-	-	-	-	-	-	-	0.0282	0.0100
2016	-	-	-	-	-	-	-	-	-	0.0302	0.0107
2017	-	-	-	-	-	-	-	-	-	0.0563	0.0200
<u>2018</u> Total						0.15	0.03	0.03	0.97	0.0845	0.0300 0.0830
		(12) Total Awarded	(13) Payroll	(14)	(15) Statewide	(16)	(17) Estimated Miner	(18) Frequency Per 100			
			(\$M)	Frequency	Average	Adjustment -					-
Year 1999		<u>(8)+(11)</u>		(12)/(13)	Weekly Wage	<u>Factor</u>	<u>Years</u>	Miner Years			
		# 0.0000	\$ 10.6918	-	588	1.549	225.7	-			
2000		# 0.0000 0.0300	\$ 10.6918 8.5748	-				-			
			8.5748		588 611	1.549 1.549	225.7 174.2				
2001		0.0300	8.5748 10.1550	-	588 611 644	1.549 1.549 1.549	225.7 174.2 195.8	-			
2001 2002		0.0300	8.5748 10.1550 10.0945	-	588 611 644 662	1.549 1.549 1.549 1.549	225.7 174.2 195.8 189.3	-			
2001 2002 2003		0.0300 - - -	8.5748 10.1550 10.0945 10.1952	-	588 611 644 662 675	1.549 1.549 1.549 1.549 1.549	225.7 174.2 195.8 189.3 187.5	-			
2001 2002 2003 2004		0.0300 - - - -	8.5748 10.1550 10.0945 10.1952 13.4602	-	588 611 644 662 675 690	1.549 1.549 1.549 1.549 1.549	225.7 174.2 195.8 189.3 187.5 242.2	-			
2001 2002 2003 2004 2005		0.0300 - - - - -	8.5748 10.1550 10.0945 10.1952 13.4602 16.5483	-	588 611 644 662 675 690 716	1.549 1.549 1.549 1.549 1.549 1.549	225.7 174.2 195.8 189.3 187.5 242.2 286.9	-			
2001 2002 2003 2004 2005 2006		0.0300 - - - - -	8.5748 10.1550 10.0945 10.1952 13.4602 16.5483 17.0510	-	588 611 644 662 675 690 716	1.549 1.549 1.549 1.549 1.549 1.549 1.549	225.7 174.2 195.8 189.3 187.5 242.2 286.9 284.1	-			
2001 2002 2003 2004 2005 2006 2007		0.0300	8.5748 10.1550 10.0945 10.1952 13.4602 16.5483 17.0510 18.8952	-	588 611 644 662 675 690 716 745	1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549	225.7 174.2 195.8 189.3 187.5 242.2 286.9 284.1 301.1	-			
2001 2002 2003 2004 2005 2006 2007 2008		0.0300	8.5748 10.1550 10.0945 10.1952 13.4602 16.5483 17.0510 18.8952 21.2503	-	588 611 644 662 675 690 716 745 779	1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549	225.7 174.2 195.8 189.3 187.5 242.2 286.9 284.1 301.1 326.9	-			
2001 2002 2003 2004 2005 2006 2007 2008 2009		0.0300	8.5748 10.1550 10.0945 10.1952 13.4602 16.5483 17.0510 18.8952 21.2503 19.8280	-	588 611 644 662 675 690 716 745 779 807 836	1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549	225.7 174.2 195.8 189.3 187.5 242.2 286.9 284.1 301.1 326.9 294.5	-			
2001 2002 2003 2004 2005 2006 2007 2008 2009 2010		0.0300	8.5748 10.1550 10.0945 10.1952 13.4602 16.5483 17.0510 18.8952 21.2503 19.8280 26.3131	- 0.0035	588 611 644 662 675 690 716 745 779 807 836	1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549	225.7 174.2 195.8 189.3 187.5 242.2 286.9 284.1 301.1 326.9 294.5 386.6	- 0.0172			
2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011		0.0300	8.5748 10.1550 10.0945 10.1952 13.4602 16.5483 17.0510 18.8952 21.2503 19.8280 26.3131 35.1551	- 0.0035	588 611 644 662 675 690 716 745 779 807 836 845	1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549	225.7 174.2 195.8 189.3 187.5 242.2 286.9 284.1 301.1 326.9 294.5 386.6 508.7	- 0.0172			
2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012		0.0300 - - - - - - - - - - - - -	8.5748 10.1550 10.0945 10.1952 13.4602 16.5483 17.0510 18.8952 21.2503 19.8280 26.3131 35.1551 34.2117	- 0.0035 - - - - - - - - - - - - -	588 611 644 662 675 690 716 745 779 807 836 845 858	1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549	225.7 174.2 195.8 189.3 187.5 242.2 286.9 284.1 301.1 326.9 294.5 386.6 508.7 478.3	- 0.0172 - - - - - - - - - - - -			
2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013		0.0300 - - - - - - - - - - - - -	8.5748 10.1550 10.0945 10.1952 13.4602 16.5483 17.0510 18.8952 21.2503 19.8280 26.3131 35.1551 34.2117 33.6400	- 0.0035 - - - - - - - - - - - - - - - - - - -	588 611 644 662 675 690 716 745 779 807 836 845 858	1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549	225.7 174.2 195.8 189.3 187.5 242.2 286.9 284.1 301.1 326.9 294.5 386.6 508.7 478.3 455.4	- 0.0172 - - - - - - - 0.0002 0.0007			
2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014		0.0300 - - - - - - - 0.0010 0.0032 0.0081	8.5748 10.1550 10.0945 10.1952 13.4602 16.5483 17.0510 18.8952 21.2503 19.8280 26.3131 35.1551 34.2117 33.6400 31.8544	0.0035 - - - - - - - - 0.0000 0.0001 0.0003	588 611 644 662 675 690 716 745 779 807 836 845 858 888 917	1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549	225.7 174.2 195.8 189.3 187.5 242.2 286.9 284.1 301.1 326.9 294.5 386.6 508.7 478.3 455.4 424.3	- 0.0172 			
2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015		0.0300 - - - - - - 0.0010 0.0032 0.0081 0.0100	8.5748 10.1550 10.0945 10.1952 13.4602 16.5483 17.0510 18.8952 21.2503 19.8280 26.3131 35.1551 34.2117 33.6400 31.8544 24.3206	0.0035 - - - - - - - 0.0000 0.0001 0.0003 0.0004	588 611 644 662 675 690 716 745 779 807 836 845 858 888 917 932	1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549	225.7 174.2 195.8 189.3 187.5 242.2 286.9 284.1 301.1 326.9 294.5 386.6 508.7 478.3 455.4 424.3 317.5	0.0172 - - - - - - - 0.0002 0.0007 0.0019 0.0032			
2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016		0.0300 - - - - - - - 0.0010 0.0032 0.0081 0.0100 0.0107	8.5748 10.1550 10.0945 10.1952 13.4602 16.5483 17.0510 18.8952 21.2503 19.8280 26.3131 35.1551 34.2117 33.6400 31.8544 24.3206 20.0794	0.0035 - - - - - - - 0.0000 0.0001 0.0003 0.0004 0.0005	588 611 644 662 675 690 716 745 779 807 836 845 858 888 917 932 951	1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549	225.7 174.2 195.8 189.3 187.5 242.2 286.9 284.1 301.1 326.9 294.5 386.6 508.7 478.3 455.4 424.3 317.5 254.9	0.0172 - - - - - - - - 0.0002 0.0007 0.0019 0.0032 0.0042			
2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015		0.0300 - - - - - - 0.0010 0.0032 0.0081 0.0100	8.5748 10.1550 10.0945 10.1952 13.4602 16.5483 17.0510 18.8952 21.2503 19.8280 26.3131 35.1551 34.2117 33.6400 31.8544 24.3206	0.0035 - - - - - - - 0.0000 0.0001 0.0003 0.0004	588 611 644 662 675 690 716 745 779 807 836 845 858 888 917 932	1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549	225.7 174.2 195.8 189.3 187.5 242.2 286.9 284.1 301.1 326.9 294.5 386.6 508.7 478.3 455.4 424.3 317.5	0.0172 - - - - - - - 0.0002 0.0007 0.0019 0.0032			
2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016		0.0300 - - - - - - - 0.0010 0.0032 0.0081 0.0100 0.0107	8.5748 10.1550 10.0945 10.1952 13.4602 16.5483 17.0510 18.8952 21.2503 19.8280 26.3131 35.1551 34.2117 33.6400 31.8544 24.3206 20.0794	0.0035 - - - - - - - 0.0000 0.0001 0.0003 0.0004 0.0005	588 611 644 662 675 690 716 745 779 807 836 845 858 888 917 932 951	1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549 1.549	225.7 174.2 195.8 189.3 187.5 242.2 286.9 284.1 301.1 326.9 294.5 386.6 508.7 478.3 455.4 424.3 317.5 254.9	0.0172 - - - - - - - - 0.0002 0.0007 0.0019 0.0032 0.0042			

Sources: Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.15)xCol.(4);2000 & Prior (0.05)xCol.(4);2001 & Subseq.

Col.(7): (0.20)xCol.(6);2000 & Prior (1.00)xCol.(6);2001 & Subseq.

Col.(10): 40% of Exh. VII-C-1 thru VII-C-6

Col.(13): Exh. X-A

 $\label{limit} File: k:\\OneDrive\\Coal Mine\\2019 Rate Filing\\XL\\[2019-07-L.xlsm]p 11 Run Date: September 23, 2019 - 09:21:47 AM \\$ 

IBNR Award Ratio (2000 & Prior): 0.3533

IBNR Award Ratio(2001 & Subseq.): 0.3549

Col.(15): Exhibit XII-D Col.(16): Exhibit X-G

Col.(17): (13) / ((15) x (16) x 52)

times 1000000 Col.(18): (12) / (17) x 100

#### TOTAL OTHER CLASSES

		Co	ounts			-					
	(1)	(2)	(3)	(4)	(5) Pending	(6) Denied	(7) Denied	(8) Ultimate	(9) Ultimate	(10)	(11) IBNR
Year	Reported	Awarded	Pending	Denied	Awarded (3) * 30%	Reopened	Awarded	Awarded (2)+(5)+(7)	Denied (1)-(8)	IBNR	Awarded (10)xAwd Ratio
1999	# 0	# 0	# O	# 0	# 0.00	# 0.00	# 0.00	# 0.00	# 0.00	# 0.0000	# 0.0000
2000	1	-	-	1	-	0.15	0.03	0.03	0.97	-	-
2001	-	-	-	-	-	-	-	-	-	-	-
2002	-	-	-	-	-	-	-	-	-	-	-
2003	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2004	-	-	-	-	-	-	-	-	-	-	-
2005 2006	-	-	-	-	-	-	-	-	-	-	-
2006	2	-	-	2	-	0.10	0.10	0.10	1.90	-	-
2007	2	-	-	2	-	0.10	0.10	0.10	1.70	-	-
2009	_	_	_	_	_	_	_	_	_	_	
2010	1	1	_	_	_	_	_	1.00	_	_	_
2011	-	-	_	-	-	-	-	-	-	_	-
2012	-	-	-	-	-	_	-	-	_	0.0065	0.0023
2013	-	-	-	-	-	-	-	-	-	0.0210	0.0074
2014	1	-	-	1	-	0.05	0.05	0.05	0.95	0.0475	0.0169
2015	1	1	-	-	-	-	-	1.00	-	0.0670	0.0238
2016	-	-	-	-	-	-	-	-	-	0.0846	0.0300
2017	-	-	-	-	-	-	-	-	-	0.1435	0.0509
2018				<del></del>						0.2235	0.0793
Total	7	2	-	5	-	0.35	0.23	2.23	4.77	0.5936	0.2107
		(12)	(13)	(14)	(15)	(16)	(17)	(18)			
		Total	Payroll	( 7	Statewide	(1.5)	Estimated	Frequency			
		Awarded	(\$M)	Frequency	Average	Adjustment	Miner	Per 100			<u>-</u>
Year		(8)+(11)		(12)/(13)	Weekly Wage	<u>Factor</u>	<u>Years</u>	Miner Years			
1999		# 0.0000	\$ 30.4519	-	588		828.7	-			
2000		0.0300	29.5370	0.0010	611		789.5	0.0038			
2001		-	30.9593	-	644		775.3	-			
2002		_	32.0980	_	662		785.5	_			
2003		0.0500	36.3016	0.0014	675		881.3	0.0057			
2004		-	44.7008	_	690		1,054.4	_			
2005		_	51.9860	_	716		1,174.7	_			
2006		_	53.5772	_	745		1,163.6	_			
2006		0.1000	59.5194	0.0017	743		1,163.6	0.0081			
				0.0017				0.0061			
2008		-	55.2550	-	807		1,082.8	-			
2009		-	47.6143	-	836		890.7	-			
2010		1.0000	54.1439	0.0185	845		977.4	0.1023			
2011		-	66.1378	-	858		1,156.5	-			
2012		0.0023	66.6865	0.0000	888		1,134.3	0.0002			
2013		0.0074	64.5404	0.0001	917		1,059.9	0.0007			
2014		0.0669	63.7840	0.0010	932		1,038.8	0.0064			
2015		1.0238	56.8154	0.0180	951		930.5	0.1100			
2016		0.0300	49.7312	0.0006	978		798.9	0.0038			
2017		0.0509	59.2346	0.0009	995		908.0	0.0056			
2018		0.0307	65.9738	0.0012	1,025		981.9	0.0081			
<u>zora</u> Total		2.4407	1,019.0481	0.0012	1,023		19,649.4	0.0124			
ioidi		2.440/	1,017.0401	0.0024			17,047.4	0.0124			

Sources: Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.15)xCol.(4);2000 & Prior (0.05)xCol.(4);2001 & Subseq.

Col.(7): (0.20)xCol.(6);2000 & Prior (1.00)xCol.(6);2001 & Subseq.

Col.(10): 40% of Exh. VII-C-1 thru VII-C-6

Col.(13): Sum of Pages 6 to 11

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Run Date: September 23, 2019 - 09:21:47 AM

IBNR Award Ratio (2000 & Prior): 0.3533

IBNR Award Ratio (2001 & Subseq.): 0.3549

Col.(15): Exhibit XII-D Col.(16): N/A

Col.(17): Total of other classes

Col.(18): (12) / (17) x 100

#### **GRAND TOTAL**

		Co	ounts								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Panartad	Awarded	Pending	Denied	Pending Awarded	Denied Reopened	Denied Awarded	Ultimate Awarded	Ultimate Denied	IBNR	IBNR Awarded
Year	керопеа	Awaraea	rending	Derlied	(3) * 30%	Reopened	Awaraea	(2)+(5)+(7)	(1)-(8)	אאוטו	(10)xAwd Ratio
1999	# 4	# 1	# 0	# 3	# 0.00	# 0.45	# 0.09	# 1.09	# 2.91	# 0.0000	# 0.0000
2000	5	2	-	3	-	0.45	0.09	2.09	2.91	-	-
2001	3	2	-	1	-	0.05	0.05	2.05	0.95	-	-
2002	1	-	-	1	-	0.05	0.05	0.05	0.95	-	-
2003	3	1	-	2	-	0.10	0.10	1.10	1.90	-	-
2004	2	1	-	1	-	0.05	0.05	1.05	0.95	-	-
2005	1	1	-	-	-	- 0.05	-	1.00	-	-	-
2006	1	-	-	I.	-	0.05	0.05	0.05	0.95	-	-
2007	4 2	1	-	4	-	0.20	0.20	0.20	3.80 0.95	-	-
2008 2009	_	1	-	ļ	-	0.05	0.05	1.05	0.93	-	-
2010	2	2	_		-	_	_	2.00	_	_	
2010	3	2	1	_	0.30	_	_	2.30	0.70	_	_
2012	6	1	-	5	-	0.25	0.25	1.25	4.75	0.0557	0.0198
2013	7	1	1	5	0.30	0.25	0.25	1.55	5.45	0.1641	0.0582
2014	6	1	1	4	0.30	0.20	0.20	1.50	4.50	0.5921	0.2101
2015	5	1	2	2	0.60	0.10	0.10	1.70	3.30	0.8117	0.2881
2016	3	-	2	1	0.60	0.05	0.05	0.65	2.35	0.8683	0.3082
2017	-	-	-	-	-	-	-	-	-	1.5679	0.5564
<u>2018</u>	2		2		0.60			0.60	1.40	2.7246	0.9670
Total	60	17	9	34	2.70	2.30	1.58	21.28	38.72	6.7844	2.4078
		(12)	(13)	(14)	(15)	(16)	(17)	(18)			
		Total	Payroll		Statewide		Estimated	Frequency			
		Awarded	(\$M)	Frequency	Average	Adjustment	Miner	Per 100			_
Year		(8)+(11)		(12)/(13)	Weekly Wage	<u>Factor</u>	<u>Years</u>	Miner Years			_
1999		# 1.0900	\$ 163.5547	0.0067	588		4,338.1	0.0251			
2000		2.0900	145.1712	0.0144	611		3,754.9	0.0557			
2001		2.0500	152.1934	0.0135	644		3,736.2	0.0549			
2002		0.0500	138.8712	0.0004	662		3,338.1	0.0015			
2003		1.1000	133.9562	0.0082	675		3,177.9	0.0346			
2004		1.0500	160.6970	0.0065	690		3,701.3	0.0284			
2005		1.0000	196.6919	0.0051	716		4,288.9	0.0233			
				0.0001	715			0.0233			
2006		0.0500	201.3494				4,199.3				
2007		0.2000	220.7609	0.0009	779		4,383.2	0.0046			
2008		1.0500	249.5671	0.0042	807		4,708.4	0.0223			
2009		-	229.4985	-	836		4,124.0	-			
2010		2.0000	268.4115	0.0075	845		4,706.5	0.0425			
2011		2.3000	323.1193	0.0071	858		5,573.5	0.0413			
2012		1.2698	323.9599	0.0039	888		5,376.0	0.0236			
2013		1.6082	293.5067	0.0055	917		4,664.7	0.0345			
2014		1.7101	321.7547	0.0053	932		4,917.0	0.0348			
2015		1.9881	261.8745	0.0076	951		3,982.1	0.0499			
2016		0.9582	217.8288	0.0044	978		3,212.6	0.0298			
2017		0.5564	285.6314	0.0019	995		4,030.5	0.0138			
		1.5670		0.0017	1,025			0.0138			
2018			300.3468		1,025		4,115.1				
Total		23.6878	4,588.7451	0.0052			84,328.3	0.0281			

Sources: Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.15)xCol.(4);2000 & Prior (0.05)xCol.(4);2001 & Subseq. Col.(7): (0.20)xCol.(6);2000 & Prior

(1.00)xCol.(6);2001 & Subseq.

Col.(10): 40% of Exh. VII-C-1 thru VII-C-6

Col.(13): Sum of Pages 5 & 12

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Run Date: September 23, 2019 - 09:21:47 AM

IBNR Award Ratio (2000 & Prior): 0.3533

IBNR Award Ratio(2001 & Subseq.): 0.3549

PAB Effective Date - April 01, 2020 274,585.419858

Col.(15): Exhibit XII-D Col.(16): N/A Col.(17): Total of all classes

Col.(18): (12) / (17) x 100

#### Coal Mine Compensation Rating Bureau Summary of Individual Claim Detail for Federal Basic Claims from Exposure Years 1990 to 2018

#### Federal Basic Severities

Underground Anthracite Class 1	Indemnity	Medical	Total
Total	7,199,462	1,179,318	8,378,779
Number of Claims	19	19	19
Average	378,919	62,069	440,988
Underground Bituminous Class	158		
Total	24,431,606	4,531,201	28,962,807
Number of Claims	73	73	73
Average	334,680	62,071	396,751
Surface Anthracite Class 153			
Total	12,977,140	2,182,520	15,159,660
Number of Claims	41	41	41
Average	316,516	53,232	369,748
Surface Bituminous Class 156			
Total	20,132,295	3,597,594	23,729,889
Number of Claims	65	65	
Average	309,728	55,348	365,075
Four Standard Classes Combine	ed		
Total	64,740,503	11,490,632	76,231,135
Number of Claims	198	198	198
Average	326,972	58,033	385,006
Other Classes			
Total	3,392,046	616,095	4,008,141
Number of Claims	11	11	11
Average	308,368	56,009	364,376
All Classes Combined			
Total	68,132,549	12,106,728	80,239,276
Number of Claims	209	209	209
Average	325,993	57,927	383,920

Source: Exhibit IX-B

#### FEDERAL BASIC OCCUPATIONAL DISEASE

ANTHRACITE UN	NDERGROUNI	D (0160)												
						IBNR +	0.200 Award		Expected Ultimate	Statewide	Adjustment	Estimated Miner	Frequency Claims per 100	Weighted
Year	Reported	Awarded	Pending	Denied	IBNR	Pending	<u>Ratio</u>	Payroll	Awarded	Average Weekly Wage	<u>Factor</u>	<u>Years</u>	Miner Years	Frequency
2009 2010	1	0	0	1 0	0.1340 0.2025	0.1340 0.2025	0.026806 0.040498	1,335,866 1,299,588	0.026806 0.040498	836 845	1.072 1.072	28.7 27.6	0.093401 0.146732	
2010	2	0	0	2	0.2674	0.2674	0.040476	1,257,944	0.040476	858	1.072	26.3	0.203331	
2012	0	0	0	0	0.2772	0.2772	0.055446	1,029,260	0.055446	888	1.072	20.8	0.266567	
2013 2014	2	0	0	2	0.1262 0.1014	0.1262 0.1014	0.025242 0.020272	381,876 258,809	0.025242 0.020272	917 932	1.072 1.072	7.5 5.0	0.336560 0.405440	
2015	0	0	0	0	0.1207	0.1207	0.024144	254,336	0.024144	951	1.072	4.8	0.503000	
2016 2017	0	0	0	0	0.0918 0.1792	0.0918 0.1792	0.018364 0.035842	163,760 252,383	0.018364 0.035842	978 995	1.072 1.072	3.0 4.6	0.612133 0.779174	
2017	0	0	0	0	0.1772	0.1772	0.033642	183,346	0.033426	1,025	1.072	3.2	1.044563	
TOTAL	5	0	0	5	1.6676	1.6676	0.333516	6,417,168	0.333516			131.5	4.390901	
AVERAGE													0.439090	
BITUMINOUS UN	NDERGROUNI	0 (0158)					0.031		Expected	Statewide		Estimated	Frequency	
						IBNR +	Award		Ultimate	Average	Adjustment	Miner	Claims per 100	
<u>Year</u> 2009	Reported 5	Awarded 0	Pending 0	<u>Denied</u> 5	<u>IBNR</u> 6.5501	Pending 6.5501	<u>Ratio</u> 0.203054	<u>Payroll</u> 101,348,140	0.203054	Weekly Wage 836	Factor 1.549	<u>Years</u> 1,505.1	Miner Years 0.013491	
2010	5	0	1	4	9.2553	10.2553	0.317914	125,393,576	0.317914	845	1.549	1,842.3	0.017256	
2011 2012	6 5	1	0	5	12.3347	12.3347	0.382376	148,485,709	1.382376	858	1.549	2,148.5	0.064341	
2012	4	1	0	5 3	14.9287 16.2767	14.9287 16.2767	0.462789 0.504578	153,618,908 145,146,253	0.462789 1.504578	888 917	1.549 1.549	2,147.7 1,965.1	0.021548 0.076565	
2014	15	0	1	14	23.5747	24.5747	0.761815	183,431,952	0.761815	932	1.549	2,443.5	0.031177	
2015 2016	18 7	0	3 0	15 7	20.4909 19.5351	23.4909 19.5351	0.728219 0.605588	140,570,275 118,545,477	0.728219 0.605588	951 978	1.549 1.549	1,835.1 1,504.8	0.039683 0.040244	
2017	4	0	1	3	33.3609	34.3609	1.065189	172,800,836	1.065189	995	1.549	2,156.1	0.049403	
2018	3	0	1	2	40.0260	41.0260	1.271805	179,746,573	1.271805	1,025	1.549	2,177.1	0.058417	
TOTAL	72	2	7	63	196.3331	203.3331	6.303327	1,469,087,699	8.303327			19,725.3	0.412125 0.041213	
AVERAGE													0.041213	
ANTHRACITE SU	IRFACE (0153	3												
ANTIKACIIE 30	MI ACE (0133	,					0.182		Expected	Statewide		Estimated	Frequency	
Voor	Donortod	Accordad	Donding	Daniad	IDNID	IBNR +	Award	Downall	Ultimate	Average	Adjustment	Miner	Claims per 100	
<u>Year</u> 2009	Reported 2	Awarded	Pending 0	Denied 1	<u>IBNR</u> 0.6580	Pending 0.6580	<u>Ratio</u> 0.119754	Payroll 15,893,528	Awarded 1.119754	Weekly Wage 836	Factor 1.072	<u>Years</u> 341.0	Miner Years 0.328374	
2010	2	0	0	2	0.6573	0.6573	0.119629	13,319,185	0.119629	845	1.072	282.8	0.042301	
2011 2012	1	0	0	1	1.1293 1.6778	1.1293 1.6778	0.205531 0.305352	19,507,428 24,734,711	0.205531 0.305352	858 888	1.072 1.072	407.9 499.7	0.050388 0.061107	
2012	3	1	2	0	1.6448	3.6448	0.663345	20,720,014	1.663345	917	1.072	405.3	0.410398	
2014	1	0	0	1	1.7410	1.7410	0.316858	18,911,339	0.316858	932	1.072	364.0	0.087049	
2015 2016	1 2	0	0	1	2.3431 2.3282	2.3431 3.3282	0.426437 0.605729	22,234,350 19,257,107	0.426437 0.605729	951 978	1.072 1.072	419.4 353.2	0.101678 0.171497	
2017	1	0	0	1	2.7256	2.7256	0.496054	19,094,634	0.496054	995	1.072	344.3	0.144076	
2018	0	0	0	0	3.1158	3.1158	0.567081	18,332,737	0.567081	1,025	1.072	320.9	0.176716	
TOTAL AVERAGE	14	2	3	9	18.0207	21.0207	3.825769	192,005,033	5.825769			3,738.5	1.573584 0.157358	
BITUMINOUS SUF	RFACE (0156	)												
						IBNR +	0.154 Award		Expected Ultimate	Statewide Average	Adjustment	Estimated Miner	Frequency Claims per 100	
<u>Year</u>	Reported	Awarded	Pending	Denied	<u>IBNR</u>	Pending	Ratio	Payroll	Awarded	Weekly Wage	Factor	<u>Years</u>	Miner Years	
2009	1	0	0	1	2.0246	2.0246	0.311781	63,306,695	0.311781	836	1.072	1,358.5	0.022950	
2010 2011	2	0	1	1	2.8024 3.8663	3.8024 4.8663	0.585568 0.749407	74,255,177 87,730,506	0.585568 0.749407	845 858	1.072 1.072	1,576.4 1,834.3	0.037146 0.040855	
2012	9	2	1	6	3.9420	4.9420	0.761074	77,890,500	2.761074	888	1.072	1,573.5	0.175473	
2013 2014	4	0	1	3	3.5862 3.5331	4.5862 4.5331	0.706278 0.698093	62,718,061 55,368,615	0.706278 1.698093	917 932	1.072 1.072	1,226.9 1,065.7	0.057566 0.159341	
2015	7	i	0	6	2.9606	2.9606	0.455931	42,000,092	1.455931	951	1.072	792.3	0.183760	
2016	0	0	0	0	2.3267	2.3267	0.358316	30,131,218	0.358316	978	1.072	552.7	0.064830	
2017 2018	1	0	0	1	3.0639 3.7035	3.0639 3.7035	0.471842 0.570337	34,248,962 36,110,426	0.471842 0.570337	995 1,025	1.072 1.072	617.5 632.0	0.076412 0.090243	
TOTAL	31	4	5	22	31.8093	36.8093	5.668628	563,760,252	9.668628	1,025	1.072	11,229.8	0.908576	
AVERAGE													0.090858	
FOUR STANDAR	D CLASSES													
						IBNR +	0.075 Award		Expected Ultimate	Statewide Average	Adjustment	Estimated Miner	Frequency Claims per 100	
YEAR	Reported	Awarded	Pending	Denied	IBNR	Pending	Ratio	Payroll	<u>Awarded</u>	Weekly Wage	<u>Factor</u>	<u>Years</u>	Miner Years	
2009	9	1	0	8 7	9.3667	9.3667	0.702503	181,884,229	1.661395	836		3,233.3	0.051384	
2010 2011	9 13	0	2 1	11	12.9175 17.5977	14.9175 18.5977	1.118811 1.394825	214,267,526 256,981,587	1.063609 2.390790	845 858		3,729.1 4,417.0	0.028522 0.054127	
2012	15	2	1	12	20.8257	21.8257	1.636929	257,273,379	3.584662	888		4,241.7	0.084510	
2013 2014	13 19	2	3 2	8	21.6339 28.9501	24.6339 30.9501	1.847541 2.321256	228,966,204 257,970,715	3.899442 2.797038	917 932		3,604.8 3,878.2	0.108174 0.072122	
2014	26	1	3	16 22	25.9153	28.9153	2.321236	205,059,053	2.634731	952 951		3,051.6	0.072122	
2016	9	0	1	8	24.2818	25.2818	1.896138	168,097,562	1.587998	978		2,413.7	0.065791	
2017	6	0	1	5 2	39.3296 47.0124	40.3296 48.0124	3.024722 3.600932	226,396,815 234,373,082	2.068927 2.442650	995 1,025		3,122.5	0.066259 0.077960	
2018 TOTAL	122	8	15	99	247.8307	262.8307	16.131240	2,231,270,152	24.131240	1,023		3,133.2	0.695188	
AVERAGE													0.069519	0.071192

Source: Claim counts - CMCRB OD Database as of 4/30/2019

IBNR: Exhibit VIII-C

Payroll- Exhibit X-A

The Award Ratio is equal to Awarded ÷ (Awarded plus Denied). Other Classes use the Total Award Ratio: 0.071=08 / [08 + 104]

The Wage Adjustment Factor was derived from CMCRB data. See Exhibit X-G

Estimated Miner Years = Payroll / (SAWW x Adj. Factor x 52)

Frequency per 100 Miner Years = (Expected Ult. Awarded / Est. Miner Years) x 100

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Run Date: September 23, 2019 - 09:35:31 AM

#### COAL MINE COMPENSATION RATING BUREAU

#### FEDERAL BASIC OCCUPATIONAL DISEASE

KE (0154)														
	tor adjusted b	oy 0.2000					0.071		Expected	Statewide		Estimated	Frequency	
						IBNR +	Award		Ultimate	Average	Adjustment	Miner	Claims per 100	We
Year	Reported	Awarded	Pending	Denied	<u>IBNR</u>	Pending	Ratio	Payroll	Awarded	Weekly Wage	<u>Factor</u>	<u>Years</u>	Miner Years	Fre
2009	0	0	0	0	0.0540	0.0540	0.003834	5,173,552	0.003834	836	1.072	111.0	0.003454	
2010	0	0	0	0	0.0640	0.0640	0.004544	5,435,658	0.004544	845	1.072	115.4	0.003938	
2011	0	0	0	0	0.0473	0.0473	0.003358	3,599,086	0.003358	858	1.072	75.3	0.004460	
2012	0	Ö	Ō	0	0.0838	0.0838	0.005950	5,738,105	0.005950	888	1.072	115.9	0.005134	
2013	0	Ö	Ô	0	0.0780	0.0780	0.005538	4,791,910	0.005538	917	1.072	93.7	0.005910	
2014	Ö	0	0	0	0.0816	0.0816	0.005794	4,464,398	0.005794	932	1.072	85.9	0.006745	
2014	0	0	0	0	0.0882	0.0882	0.003774	4,340,376		951	1.072	81.9		
									0.006262				0.007646	
2016	0	0	0	0	0.0998	0.0998	0.007086	4,435,066	0.007086	978	1.072	81.4	0.008705	
2017	0	0	0	0	0.1129	0.1129	0.008016	4,566,113	0.008016	995	1.072	82.3	0.009740	
2018	0	0	0	0	0.1207	0.1207	0.008570	4,456,795	0.008570	1,025	1.072	78.0	0.010987	
TOTAL	0	0	0	0	0.8303	0.8303	0.058951	47,001,059	0.058951			920.8	0.066719	
AVERAGE													0.006672	
GER (0157) IBNR Fact	tor adjusted b	oy 0.4000					0.071		Expected	Statewide		Estimated	Frequency	
	-					IBNR +	Award		Ultimate	Average	Adjustment	Miner	Claims per 100	
YEAR	Reported	Awarded	Pending	Denied	IBNR	Pending	Ratio	Payroll	Awarded	Weekly Wage	Factor	<u>Years</u>	Miner Years	
2009	0	0	0	0	0.0198	0.0198	0.001406	946,963	0.001406	836	1.072	20.3	0.006925	
2010	1	0	1	0	0.0176	1.0195	0.001400	827,496	0.001400	845	1.072	17.6	0.411276	
2010	0	0	0	0	0.0173	0.0309	0.072383		0.002194	858	1.072	24.6	0.008918	
								1,176,255						
2012	1	0	0	1	0.0236	0.0236	0.001676	808,208	0.001676	888	1.072	16.3	0.010280	
2013	0	0	0	0	0.0341	0.0341	0.002421	1,046,947	0.002421	917	1.072	20.5	0.011810	
2014	0	0	0	0	0.0315	0.0315	0.002237	861,590	0.002237	932	1.072	16.6	0.013473	
2015	0	0	0	0	0.0266	0.0266	0.001889	654,766	0.001889	951	1.072	12.4	0.015231	
2016	0	0	0	0	0.0177	0.0177	0.001257	392,776	0.001257	978	1.072	7.2	0.017454	
2017	0	0	0	0	0.0280	0.0280	0.001988	566,324	0.001988	995	1.072	10.2	0.019490	
2018	0	0	0	0	0.0303	0.0303	0.002151	560,126	0.002151	1,025	1.072	9.8	0.021952	
TOTAL	2		1	1	0.2620	1.2620	0.089602	7,841,451	0.089602	1,020	1.072	155.5	0.536809	
AVERAGE		U	'	'	0.2620	1.2020	0.007602	7,041,431	0.007602			133.3	0.053681	
IBNR Fact	D-GEN (0181) tor adjusted b	oy 0.5000				IBNR +	0.071 Award		Expected Ultimate	Statewide Average	Adjustment	Estimated Miner	Frequency Claims per 100	
YEAR	Reported	Awarded	Pending	Denied	IBNR	Pending	Ratio	Payroll	Awarded	Weekly Wage	<u>Factor</u>	<u>Years</u>	Miner Years	
2009	0	0	0	0	0.1966	0.1966	0.013959	7,534,735	0.013959	836	1.072	161.7	0.008632	
2010	0	0	0	0	0.2342	0.2342	0.016628	7,958,048	0.016628	845	1.072	168.9	0.009845	
2011	0	0	0	0	0.3611	0.3611	0.025638	10,981,642	0.025638	858	1.072	229.6	0.011166	
2012	i	0	0	i	0.3398	0.3398	0.024126	9,311,812	0.024126	888	1.072	188.1	0.012826	
2013	i	0	0	i	0.3106	0.3106	0.022053	7,630,762	0.022053	917	1.072	149.3	0.014771	
2014	0	0	0	0	0.3820	0.3820	0.022030	8,360,898	0.027122	932	1.072	160.9	0.016856	
	0		0											
2015	-	0	-	0	0.4855	0.4855	0.034471	9,554,806	0.034471	951	1.072	180.2	0.019129	
2016	0	0	0	0	0.4475	0.4475	0.031773	7,953,309	0.031773	978	1.072	145.9	0.021777	
2017	0	0	0	0	0.4820	0.4820	0.034222	7,793,558	0.034222	995	1.072	140.5	0.024357	
2018	0	0	0	0	0.6780	0.6780	0.048138	10,018,416	0.048138	1,025	1.072	175.3	0.027460	
TOTAL	2	0	0	2	3.9173	3.9173	0.278128	87,097,986	0.278128			1,700.4	0.166819	
AVERAGE													0.016682	
	<b>D-GEN (0182</b> ) tor adjusted b						0.071		Expected	Statewide		Estimated	Frequency	
	,,	. ,				IBNR +	Award		Ultimate	Average	Adjustment	Miner	Claims per 100	
YEAR	Reported	Awarded	Pending	Denied	IBNR	Pending	Ratio	Payroll	Awarded	Weekly Wage	Factor	Years	Miner Years	
2009	0	Awaraea 0	renaing 0	Denied 0	0.2053	0.2053	0.014576	7.866.413	0.014576	836	1.072	168.8	0.008635	
2009														
0010	0	0	0	0	0.2570	0.2570	0.018247	8,732,701	0.018247	845	1.072	185.4	0.009842	
2010		0	0	0	0.2993	0.2993	0.021250	9,102,411	0.021250	858	1.072	190.3	0.011167	
2011	0	0	0	0	0.3302	0.3302	0.023444	9,047,745	0.023444	888	1.072	182.8	0.012825	
2011 2012	0			0	0.4216	0.4216	0.029934	10,355,884	0.029934	917	1.072	202.6	0.014775	
2011		0	0	U			0.038021	11,721,184	0.038021	932	1.072	225.6	0.016853	
2011 2012	0		0	0	0.5355	0.5355	0.036021							
2011 2012 2013 2014	0 0	0	0	0						951	1.072			
2011 2012 2013 2014 2015	0 0 0	0 0 0	0	0	0.5970	0.5970	0.042387	11,748,205	0.042387	951 978	1.072	221.6	0.019128	
2011 2012 2013 2014 2015 2016	0 0 0 0	0 0 0	0 0	0 0	0.5970 0.6373	0.5970 0.6373	0.042387 0.045248	11,748,205 11,327,552	0.042387 0.045248	978	1.072	221.6 207.8	0.019128 0.021775	
2011 2012 2013 2014 2015 2016 2017	0 0 0 0 0	0 0 0 0	0 0 0	0 0 0	0.5970 0.6373 0.7071	0.5970 0.6373 0.7071	0.042387 0.045248 0.050204	11,748,205 11,327,552 11,435,057	0.042387 0.045248 0.050204	978 995	1.072 1.072	221.6 207.8 206.2	0.019128 0.021775 0.024347	
2011 2012 2013 2014 2015 2016 2017 2018	0 0 0 0 0	0 0 0 0 0	0 0 0 0	0 0 0 0	0.5970 0.6373 0.7071 0.8119	0.5970 0.6373 0.7071 0.8119	0.042387 0.045248 0.050204 0.057645	11,748,205 11,327,552 11,435,057 11,996,610	0.042387 0.045248 0.050204 0.057645	978	1.072	221.6 207.8 206.2 210.0	0.019128 0.021775 0.024347 0.027450	
2011 2012 2013 2014 2015 2016 2017	0 0 0 0 0	0 0 0 0	0 0 0	0 0 0	0.5970 0.6373 0.7071	0.5970 0.6373 0.7071	0.042387 0.045248 0.050204	11,748,205 11,327,552 11,435,057	0.042387 0.045248 0.050204	978 995	1.072 1.072	221.6 207.8 206.2	0.019128 0.021775 0.024347	

Source: Claim counts - CMCRB OD Database as of 4/30/2019

IBNR: Exhibit VIII-C

IBNR: Exhibit VIII-C
Payroll- Exhibit VIII-C
Payroll- Exhibit X-A
The Award Ratio is equal to Awarded ÷ (Awarded plus Denied). Other Classes use the Total Award Ratio: 0.071=08 / [08 + 104]
The Wage Adjustment Factor was derived from CMCR8 data. See Exhibit X-G
Estimated Miner Years = Payroll / (SAWW x Adj. Factor x 52)
Frequency per 100 Miner Years = (Expected Ult. Awarded / Est. Miner Years) x 100
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Run Date: September 23, 2019 - 09:35:31 AM

#### COAL MINE COMPENSATION RATING BUREAU

#### FEDERAL BASIC OCCUPATIONAL DISEASE

ANTHRACITE PRI	EP PLANT (01 for adjusted b						0.071		Expected	Statewide		Estimated	Frequency	
<u>Year</u>	<u>Reported</u>	<u>Awarded</u>	Pending	Denied	IBNR	IBNR + Pending	Award Ratio	<u>Payroll</u>	Ultimate Awarded	Average Weekly Wage	Adjustment <u>Factor</u>	Miner Years	Claims per 100 Miner Years	Weighted <u>Frequency</u>
2009 2010	0	0	0	0	0.3269 0.2871	0.3269 0.2871	0.023210 0.020384	6,264,606 4,876,927	0.023210 0.020384	836 845	1.072 1.072	134.4 103.5	0.017269 0.019695	
2010	0	0	0	0	0.4027	0.4027	0.020504	6,123,259	0.028592	858	1.072	128.0	0.022337	
2012	0	0	0	0	0.5524	0.5524	0.039220	7,569,023	0.039220	888	1.072	152.9	0.025651	
2013 2014	1	0	1	0	0.5760 0.5959	1.5760 0.5959	0.111896 0.042309	7,074,886 6,521,541	0.111896 0.042309	917 932	1.072 1.072	138.4 125.5	0.080850 0.033712	
2014	0	0	0	0	0.6298	0.6298	0.042309	6,196,596	0.042309	952 951	1.072	116.9	0.033712	
2016	0	0	0	0	0.6237	0.6237	0.044283	5,542,968	0.044283	978	1.072	101.7	0.043542	
2017	0	0	0	0	0.7491	0.7491	0.053186	6,056,810	0.053186	995	1.072	109.2	0.048705	
2018	0	0	0	0	0.9324	0.9324	0.066200	6,888,320	0.066200	1,025	1.072	120.6	0.054893	
TOTAL Average	I	0	1	0	5.6760	6.6760	0.473996	63,114,936	0.473996			1,231.1	0.384905 0.038491	
711 01 0 0 0													0.000 17 1	
BITUMINOUS PR IBNR Fact	EP PLANT (01 for adjusted b						0.071		Expected	Statewide		Estimated	Frequency	
						IBNR +	Award		Ultimate	Average	Adjustment	Miner	Claims per 100	
<u>YEAR</u> 2009	Reported	Awarded 0	Pending 0	Denied 1	<u>IBNR</u> 0.5174	Pending 0.5174	<u>Ratio</u> 0.036735	Payroll 19,828,012	<u>Awarded</u> 0.036735	Weekly Wage 836	Factor 1.549	<u>Years</u> 294.5	Miner Years 0.012474	
2010	0	0	0	0	0.7745	0.7745	0.054990	26,313,130	0.054990	845	1.549	386.6	0.014224	
2011	1	0	0	1	1.1559	1.1559	0.082069	35,155,068	0.082069	858	1.549	508.7	0.016133	
2012	0	0	0	0	1.2484	1.2484	0.088636	34,211,729	0.088636	888 917	1.549	478.3	0.018532	
2013 2014	2	0	2	0	1.3695 1.4553	1.3695 3.4553	0.097235 0.245326	33,639,969 31,854,431	0.097235 0.245326	932	1.549 1.549	455.4 424.3	0.021351 0.057819	
2015	0	0	0	Ö	1.2359	1.2359	0.087749	24,320,608	0.087749	951	1.549	317.5	0.027637	
2016	0	0	0	0	1.1297	1.1297	0.080209	20,079,401	0.080209	978	1.549	254.9	0.031467	
2017	0	0	0	0	1.7820	1.7820 2.1694	0.126522	28,816,678	0.126522	995 1,025	1.549 1.549	359.6 388.2	0.035184	
2018 TOTAL	4	0	0		12.8380	14.8380	1.053498	32,053,553 286,272,579	0.154027 1.053498	1,025	1.549	3,868.0	0.039677	
Average	7	· ·	_	_	12.0000	14.0000	1.000470	200,272,077	1.000470			0,000.0	0.027450	
TOTAL OTHER CL	.ASSES						0.071		Expected	Statewide		Estimated	Frequency	
		Awarded	Pending	Denied	IRNIP	IBNR +	Award	Povroll	Ultimate	Average	Adjustment	Miner	Claims per 100	
TOTAL OTHER CL	Reported	Awarded 0	Pending 0	Denied 1	<u>IBNR</u> 1.3200	Pending	Award <u>Ratio</u>	<u>Payroll</u> 47,614,281			Adjustment <u>Factor</u>		Claims per 100 Miner Years	
<u>YEAR</u> 2009 2010	Reported 1	0	0	1	1.3200 1.6363	Pending 1.3200 2.6363	Award <u>Ratio</u> 0.093720 0.187177	47,614,281 54,143,960	Ultimate <u>Awarded</u> 0.093720 0.187177	Average <u>Weekly Wage</u> 836 845		Miner <u>Years</u> 890.7 977.4	Claims per 100 <u>Miner Years</u> 0.010522 0.019151	
<u>YEAR</u> 2009 2010 2011	Reported 1 1 1	0 0 0	0 1 0	1 0 1	1.3200 1.6363 2.2972	Pending 1.3200 2.6363 2.2972	Award <u>Ratio</u> 0.093720 0.187177 0.163101	47,614,281 54,143,960 66,137,721	Ultimate <u>Awarded</u> 0.093720 0.187177 0.163101	Average Weekly Wage 836 845 858		Miner <u>Years</u> 890.7 977.4 1,156.5	Claims per 100 <u>Miner Years</u> 0.010522 0.019151 0.014103	
<u>YEAR</u> 2009 2010	Reported 1 1 1 2	0	0	1	1.3200 1.6363 2.2972 2.5782	Pending 1.3200 2.6363 2.2972 2.5782	Award <u>Ratio</u> 0.093720 0.187177 0.163101 0.183052	47,614,281 54,143,960 66,137,721 66,686,622	Ultimate <u>Awarded</u> 0.093720 0.187177 0.163101 0.183052	Average <u>Weekly Wage</u> 836 845		Miner <u>Years</u> 890.7 977.4 1,156.5 1,134.3	Claims per 100 <u>Miner Years</u> 0.010522 0.019151 0.014103 0.016138	
<u>YEAR</u> 2009 2010 2011 2012	Reported	0 0 0 0 0	0 1 0 0	1 0 1 2 1 0	1.3200 1.6363 2.2972	Pending 1.3200 2.6363 2.2972	Award <u>Ratio</u> 0.093720 0.187177 0.163101	47,614,281 54,143,960 66,137,721	Ultimate <u>Awarded</u> 0.093720 0.187177 0.163101	Average <u>Weekly Wage</u> 836 845 858 888 917 932		Miner <u>Years</u> 890.7 977.4 1,156.5	Claims per 100 <u>Miner Years</u> 0.010522 0.019151 0.014103	
YEAR 2009 2010 2011 2012 2013 2014 2015	Reported	0 0 0 0 0	0 1 0 0 1 2	1 0 1 2 1 0	1.3200 1.6363 2.2972 2.5782 2.7898 3.0818 3.0630	Pending 1.3200 2.6363 2.2972 2.5782 3.7898 5.0818 3.0630	Award Ratio 0.093720 0.187177 0.163101 0.183052 0.269076 0.360808 0.217473	47,614,281 54,143,960 66,137,721 66,686,622 64,540,358 63,784,042 56,815,357	Ultimate <u>Awarded</u> 0.093720 0.187177 0.163101 0.183052 0.269076 0.360808 0.217473	Average Weekly Wage 836 845 858 888 917 932 951		Miner <u>Years</u> 890.7 977.4 1,156.5 1,134.3 1,059.9 1,038.8 930.5	Claims per 100 <u>Miner Years</u> 0.010522 0.019151 0.014103 0.016138 0.025387 0.034733 0.023372	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016	Reported 1 1 1 2 2 2 0 0	0 0 0 0 0 0	0 1 0 0 1 2 0	1 0 1 2 1 0 0	1.3200 1.6363 2.2972 2.5782 2.7898 3.0818 3.0630 2.9557	Pending 1.3200 2.6363 2.2972 2.5782 3.7898 5.0818 3.0630 2.9557	Award Ratio 0.093720 0.187177 0.163101 0.183052 0.269076 0.360808 0.217473 0.209855	47,614,281 54,143,960 66,137,721 66,686,622 64,540,358 63,784,042 56,815,357 49,731,072	Ultimate <u>Awarded</u> 0.093720 0.187177 0.163101 0.183052 0.269076 0.360808 0.217473 0.209855	Average  Weekly Wage  836  845  858  888  917  932  951  978		Miner <u>Years</u> 890.7 977.4 1,156.5 1,134.3 1,059.9 1,038.8 930.5 798.9	Claims per 100  Miner Years 0.010522 0.019151 0.014103 0.016138 0.025387 0.034733 0.023372 0.026268	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017	Reported 1 1 1 2 2 2 0 0 0	0 0 0 0 0 0 0	0 1 0 0 1 2	1 0 1 2 1 0	1.3200 1.6363 2.2972 2.5782 2.7898 3.0818 3.0630	Pending 1.3200 2.6363 2.2972 2.5782 3.7898 5.0818 3.0630	Award Ratio 0.093720 0.187177 0.163101 0.183052 0.269076 0.360808 0.217473	47,614,281 54,143,960 66,137,721 66,686,622 64,540,358 63,784,042 56,815,357	Ultimate <u>Awarded</u> 0.093720 0.187177 0.163101 0.183052 0.269076 0.360808 0.217473	Average Weekly Wage 836 845 858 888 917 932 951		Miner <u>Years</u> 890.7 977.4 1,156.5 1,134.3 1,059.9 1,038.8 930.5	Claims per 100 <u>Miner Years</u> 0.010522 0.019151 0.014103 0.016138 0.025387 0.034733 0.023372	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016	Reported 1 1 1 2 2 2 0 0	0 0 0 0 0 0	0 1 0 0 1 2 0 0	1 0 1 2 1 0 0	1.3200 1.6363 2.2972 2.5782 2.7898 3.0818 3.0630 2.9557 3.8611	Pending 1.3200 2.6363 2.2972 2.5782 3.7898 5.0818 3.0630 2.9557 3.8611	Award Ratio 0.093720 0.187177 0.163101 0.183052 0.269076 0.360808 0.217473 0.209855 0.274138	47,614,281 54,143,960 66,137,721 66,686,622 64,540,358 63,784,042 56,815,357 49,731,072 59,234,540	Ultimate <u>Awarded</u> 0.093720 0.187177 0.163101 0.183052 0.269076 0.360808 0.217473 0.209855 0.274138	Average  Weekly Wage  836  845  858  888  917  932  951  978  995		Miner <u>Years</u> 890.7 977.4 1,156.5 1,134.3 1,059.9 1,038.8 930.5 798.9 908.0	Claims per 100 <u>Miner Years</u> 0.010522 0.019151 0.014103 0.016138 0.025387 0.034733 0.023372 0.026268 0.030191	
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018	Reported 1 1 1 2 2 2 0 0 0 0	0 0 0 0 0 0 0 0	0 1 0 0 1 2 0 0 0	1 0 1 2 1 0 0 0	1.3200 1.6363 2.2972 2.5782 2.7898 3.0818 3.0630 2.9557 3.8611 4.7427	Pending 1.3200 2.6363 2.2972 2.5782 3.7898 5.0818 3.0630 2.9557 3.8611 4.7427	Award Ratio 0.093720 0.187177 0.163101 0.183052 0.269076 0.366808 0.217473 0.209855 0.274138 0.336732	47,614,281 54,143,960 66,137,721 66,686,622 64,540,358 63,784,042 56,815,357 49,731,072 59,234,540 65,973,820	Ultimate <u>Awarded</u> 0.093720 0.187177 0.163101 0.183052 0.269076 0.360808 0.217473 0.209855 0.274138 0.336732	Average  Weekly Wage  836  845  858  888  917  932  951  978  995		Miner <u>Years</u> 890.7 977.4 1,156.5 1,134.3 1,059.9 1,038.8 930.5 798.9 908.0 981.9	Claims per 100  Miner Years 0.010522 0.019151 0.014103 0.016138 0.025387 0.034733 0.023372 0.026268 0.030191 0.034294	0.023266
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL	Reported 1 1 1 2 2 2 0 0 0 0	0 0 0 0 0 0 0 0	0 1 0 0 1 2 0 0 0	1 0 1 2 1 0 0 0	1.3200 1.6363 2.2972 2.5782 2.7898 3.0818 3.0630 2.9557 3.8611 4.7427	Pending 1.3200 2.6363 2.2972 2.5782 3.7898 5.0818 3.0630 2.9557 3.8611 4.7427	Award Ratio 0.093720 0.187177 0.163101 0.183052 0.269076 0.360808 0.217473 0.209855 0.274138 0.336732 2.295132	47,614,281 54,143,960 66,137,721 66,686,622 64,540,358 63,784,042 56,815,357 49,731,072 59,234,540 65,973,820	Ultimate <u>Awarded</u> 0.093720 0.187177 0.163101 0.183052 0.269076 0.360808 0.217473 0.209855 0.274138 0.336732 2.295132	Average <u>Weekly Wage</u> 836 838 845 858 8917 932 951 978 995 1,025		Miner Years 890.7 977.4 1,156.5 1,134.3 1,059.9 1,038.8 930.5 798.9 908.0 981.9 9,876.9	Claims per 100  Miner Years  0.010522 0.019151 0.014103 0.016138 0.025387 0.034733 0.0223372 0.026268 0.030191 0.034294 0.234159 0.023416	0.023266
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average	Reported 1 1 1 2 2 2 0 0 0 0	0 0 0 0 0 0 0 0	0 1 0 0 1 2 0 0 0	1 0 1 2 1 0 0 0	1.3200 1.6363 2.2972 2.5782 2.7898 3.0818 3.0630 2.9557 3.8611 4.7427	Pending 1.3200 2.6363 2.2972 2.5782 3.7898 5.0818 3.0630 2.9557 3.8611 4.7427 32.3258	Award Ratio 0.093720 0.187177 0.163101 0.183052 0.269076 0.360808 0.217473 0.209855 0.274138 0.336732 2.295132	47,614,281 54,143,960 66,137,721 66,686,622 64,540,358 63,784,042 56,815,357 49,731,072 59,234,540 65,973,820	Ultimate Awarded 0.093720 0.187177 0.163101 0.183052 0.269076 0.360808 0.217473 0.209855 0.274138 0.336732 2.295132	Average <u>Weekly Wage</u> 836 845 858 888 917 932 951 1,025 Statewide	<u>Factor</u>	Miner Years 890.7 977.4 1,156.5 1,134.3 1,059.9 1,038.8 930.5 798.9 908.0 981.9 9.876.9	Claims per 100  Miner Years 0.010522 0.019151 0.014103 0.016138 0.025387 0.034733 0.023372 0.026268 0.030191 0.034294 0.234159 0.023416	0.023266
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average	Reported 1 1 1 2 2 2 0 0 0 0	0 0 0 0 0 0 0 0	0 1 0 0 1 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 1 2 1 0 0 0	1.3200 1.6363 2.2972 2.5782 2.7898 3.0818 3.0630 2.9557 3.8611 4.7427	Pending 1.3200 2.6363 2.2972 2.5782 3.7898 5.0818 3.0630 2.9557 3.8611 4.7427	Award Ratio 0.093720 0.187177 0.163101 0.183052 0.269076 0.360808 0.217473 0.209855 0.274138 0.336732 2.295132	47,614,281 54,143,960 66,137,721 66,686,622 64,540,358 63,784,042 56,815,357 49,731,072 59,234,540 65,973,820	Ultimate <u>Awarded</u> 0.093720 0.187177 0.163101 0.183052 0.269076 0.360808 0.217473 0.209855 0.274138 0.336732 2.295132	Average <u>Weekly Wage</u> 836 838 845 858 8917 932 951 978 995 1,025		Miner Years 890.7 977.4 1,156.5 1,134.3 1,059.9 1,038.8 930.5 798.9 908.0 981.9 9,876.9	Claims per 100  Miner Years  0.010522 0.019151 0.014103 0.016138 0.025387 0.034733 0.0223372 0.026268 0.030191 0.034294 0.234159 0.023416	0.023266
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average  GRAND TOTAL  YEAR 2009	Reported  1 1 1 2 2 2 0 0 0 0 0 0 9 9	0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 1 2 0 0 0 0 4	1 0 1 2 1 0 0 0 0 0 0 5 5 Denied 9	1.3200 1.6363 2.2972 2.5782 2.7898 3.0618 3.0630 2.9557 3.8611 4.7427 28.3258	Pending 1.3200 2.6363 2.2972 2.5782 3.7898 5.0818 3.0630 2.9557 3.8611 4.7427 32.3258  IBNR + Pending 10.6867	Award Ratio 0.093720 0.187177 0.163101 0.183052 0.269076 0.360808 0.2174138 0.336732 2.295132  0.071 Award Ratio 0.758756	47.614.281 54.143.960 66.137.721 66.686.622 64.540.358 63.784.042 56.815.357 49.731.072 59.234.540 65.973.820 594.661.773	Ultimate <u>Awarded</u> 0.093720 0.187177 0.163101 0.183052 0.269076 0.36088 0.2174473 0.209855 0.274138 2.295132 Expected Ultimate <u>Awarded</u> 1.755115	Average  Weekly Wage  836 845 858 858 917 932 951 978 995 1,025  Statewide Average Weekly Wage	<u>Factor</u>	Miner Years 890.7 977.4 1,156.5 1,134.3 1,059.9 1,038.8 930.5 798.9 908.0 981.9 9,876.9  Estimated Miner Years 4,124.0	Claims per 100  Miner Years	0.023266
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average  GRAND TOTAL  YEAR 2009 2010	Reported   1   1   2   2   2   2   0   0   0   0   9   0   0   0   0   0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 1 2 2 0 0 0 0 0 4	1 0 0 1 2 1 0 0 0 0 0 0 5 5 Denied 9 7 7	1.3200 1.6363 2.2972 2.5782 2.7898 3.0818 3.0630 2.9557 3.8611 4.7427 28.3258	Pending 1.3200 2.6363 2.2972 2.5782 3.7898 5.0818 3.0630 2.9557 3.8611 4.7427 32.3258  IBNR + Pending 10.6867 17.5538	Award Rafio 0.093720 0.187177 0.16310 0.183052 0.269076 0.360808 0.217473 0.209855 0.274138 0.336732 2.295132	47,614,281 54,143,960 66,137,721 66,686,622 64,540,358 63,784,042 56,815,357 49,731,072 59,234,540 65,973,820 594,661,773	Ultimate <u>Awarded</u> 0.093720 0.187177 0.163101 0.183052 0.269076 0.36080 0.217433 0.209855 0.274138 0.336732 2.295132 Expected Ultimate <u>Awarded</u> 1.755115 1.250786	Average  Weekly Wage  836  845  858  888  917  932  951  978  975  1,025   Statewide  Average  Weekly Wage  836  845	<u>Factor</u>	Miner Years 890.7 977.4 1,156.5 1,134.3 1,059.9 1,038.8 930.5 798.9 908.0 981.9 9.876.9	Claims per 100  Miner Years 0.010522 0.019151 0.014103 0.016138 0.025387 0.034733 0.023372 0.026268 0.030191 0.034294 0.234159 0.023416  Frequency Claims per 100 Miner Years 0.042557	0.023266
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average  GRAND TOTAL  YEAR 2009 2010 2011	Reported  1 1 1 2 2 2 0 0 0 9  Reported 10 10 11	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 1 2 0 0 0 0 4	1 0 1 2 1 0 0 0 0 0 0 5 5 Denied 9 7 12	1.3200 1.6363 2.2972 2.5782 2.7898 3.0818 3.0630 2.9557 3.8611 4.7427 28.3258	Pending 1.3200 2.6363 2.2972 2.5782 3.7898 5.0818 3.0630 2.9557 3.8611 4.7427 32.3258  IBNR + Pending 10.6867 17.5538 20.8949	Award Ratio 0.093720 0.187177 0.163101 0.183052 0.269076 0.360808 0.217473 0.209855 0.274138 0.336732 2.295132	47.614.281 54.143.960 66.137.721 66.686.622 64.540.358 63.784.042 56.815.357 49.731.072 59.234.540 65.973.820 594.661.773	Ultimate <u>Awarded</u> 0.093720 0.187177 0.163101 0.183052 0.269076 0.360808 0.217473 0.209855 0.274138 0.336732 2.295132 Expected Ultimate <u>Awarded</u> 1.755115 1.250786 2.553891	Average  Weekly Wage  836 838 845 858 888 917 932 951 978 995 1,025  Statewide Average  Weekly Wage  Weekly Wage 836 845 858	<u>Factor</u>	Miner Years  890.7  977.4  1,156.5  1,134.3  1,059.9  1,038.8  930.5  798.9  908.0  981.9  9,876.9  Estimated Miner Years  4,124.0  4,706.5  5,573.5	Claims per 100  Miner Years 0.010522 0.019151 0.014103 0.016138 0.025387 0.034733 0.026268 0.030191 0.034294 0.234159 0.023416  Frequency Claims per 100 Miner Years 0.042559 0.042559 0.042557 0.045822	0.023266
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average  GRAND TOTAL  YEAR 2009 2010	Reported   1   1   2   2   2   2   0   0   0   0   9   0   0   0   0   0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 1 2 2 0 0 0 0 4	1 0 0 1 2 1 0 0 0 0 0 0 5 5 Denied 9 7 7	1.3200 1.6363 2.2972 2.5782 2.7898 3.0818 3.0630 2.9557 3.8611 4.7427 28.3258	Pending 1.3200 2.6363 2.2972 2.5782 3.7898 5.0818 3.0630 2.9557 3.8611 4.7427 32.3258  IBNR + Pending 10.6867 17.5538	Award Rafio 0.093720 0.187177 0.16310 0.183052 0.269076 0.360808 0.217473 0.209855 0.274138 0.336732 2.295132	47,614,281 54,143,960 66,137,721 66,686,622 64,540,358 63,784,042 56,815,357 49,731,072 59,234,540 65,973,820 594,661,773	Ultimate <u>Awarded</u> 0.093720 0.187177 0.163101 0.183052 0.269076 0.36080 0.217433 0.209855 0.274138 0.336732 2.295132 Expected Ultimate <u>Awarded</u> 1.755115 1.250786	Average  Weekly Wage  836  845  858  888  917  932  951  978  975  1,025   Statewide  Average  Weekly Wage  836  845	<u>Factor</u>	Miner Years 890.7 977.4 1,156.5 1,134.3 1,059.9 1,038.8 930.5 798.9 908.0 981.9 9.876.9	Claims per 100  Miner Years 0.010522 0.019151 0.014103 0.016138 0.025387 0.034733 0.023372 0.026268 0.030191 0.034294 0.234159 0.023416  Frequency Claims per 100 Miner Years 0.042557	0.023266
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL AVERAR 2009 2010 2011 2012 2013	Reported    1		0 1 0 0 1 2 0 0 0 0 4 Pending 0 3 3 1 1 4 4	1 0 1 1 2 2 1 1 0 0 0 0 0 0 0 5 5 Denied 9 7 12 14 4 9 9 16 6	1.3200 1.6363 2.2972 2.5782 2.7898 3.0618 3.0630 2.9557 3.8611 4.7427 28.3258	Pending 1.3200 2.6363 2.2972 2.5782 3.7898 5.0818 3.0630 2.9557 3.8611 4.7427 32.3258  IBNR + Pending 10.6867 17.5538 20.8949 24.4039 28.4237 36.0319	Award Ratiio 0.093720 0.187177 0.163101 0.183052 0.269076 0.360808 0.217473 0.209855 0.2744138 0.336732 2.295132	47.614.281 54.143.960 66.137.721 66.686.622 64.540.358 63.784.042 56.815.357 49.731.072 59.234.540 65.973.820 594.661.773  Payroll 229.498.510 268.411.486 323.119.308 323.960.001 293.506.562 321.754.757	Ultimate <u>Awarded</u> 0.093720 0.187177 0.163101 0.183052 0.269076 0.360808 0.217473 2.275132 0.29855 0.274138 0.336732 2.295132 0.36732 0.36732 0.36732 0.36732 0.36732 0.36732 0.367314 0.36731 0.367714 0.368518 3.367814 0.368518	Average Weekly Wage  836 838 845 858 888 917 932 951 978 995 1,025  Statewide Average Weekly Wage Weekly Wage 836 845 858 888 888 8917 932	<u>Factor</u>	Miner Years 890.7 977.4 1,156.5 1,134.3 1,059.9 1,038.8 930.5 798.9 908.0 981.9 9,876.9  Estimated Miner Years 4,124.0 4,706.5 5,573.5 5,376.0 4,664.7 4,917.0	Claims per 100  Miner Years 0.010522 0.019151 0.014103 0.016138 0.025387 0.034733 0.026268 0.030191 0.034294 0.234159 0.023416  Frequency Claims per 100 Miner Years 0.042559 0.026576 0.045822 0.070084 0.089363 0.064223	0.023266
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average  GRAND TOTAL  YEAR 2009 2010 2011 2012 2013 2014 2015	Reported  1 1 2 2 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 1 0 0 1 2 0 0 0 0 4 Pending 0 3 1 1 1 4 4 4	Denied 9 7 12 14 4 9 16 22	1.3200 1.6363 2.2972 2.5782 2.7898 3.0618 3.0630 2.9557 3.8611 4.7427 28.3258 BBNR 10.6867 14.5538 19.8949 23.4039 24.4237 32.0319	Pending 1.3200 2.6363 2.2972 2.5782 3.7898 5.0818 3.0630 2.9557 3.8611 4.7427 32.3258  IBNR + Pending 10.6867 17.5538 20.8949 24.4039 28.4237 36.0319 31.9783	Award Ratio 0.093720 0.187177 0.16310 1.0183052 0.259076 0.366808 0.217473 0.209855 0.274138 0.336732 2.295132 0.071 Award Ratio 0.758756 1.246318 1.4835278 2.018081 2.558263 2.270487	47.614.281 54.143.960 66.137.721 66.686.622 64.540.358 63.784.042 56.815.357 49.731.072 59.234.540 65.973.820 594.661.773  Payroll 229.498.510 268.411.486 323.119.308 323.960.001 293.506.562 321.754.757 261.874.4410	Ultimate <u>Awarded</u> 0.093720 0.187177 0.163101 0.183052 0.269076 0.36088 0.2174473 0.209855 0.274138 0.2795132 Expected Ultimate <u>Awarded</u> 1.755115 1.250786 2.553891 3.767714 4.168518 3.157846 2.852204	Average  Weekly Wage  836 845 858 888 917 932 951 1,025  Statewide Average Weekly Wage 836 845 858 888 917 932 951	<u>Factor</u>	Miner Years 890.7 977.4 1,156.5 1,134.3 1,059.9 1,038.8 930.5 798.9 908.0 981.9 9,876.9  Estimated Miner Years 4,124.0 4,706.5 5,573.5 5,376.0 4,664.7 4,917.0 3,982.1	Claims per 100  Miner Years 0.010522 0.019151 0.014103 0.016138 0.025387 0.034733 0.023372 0.024268 0.030191 0.034294 0.234159 0.023416  Frequency Claims per 100 Miner Years 0.042559 0.024576 0.042559 0.024576 0.045822 0.070084 0.089363 0.064223 0.071626	0.023266
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average  GRAND TOTAL  YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2011 2012 2013 2014	Reported  1 1 2 2 2 0 0 0 9  Reported 10 10 14 17 15 21 26 9		0 1 0 0 1 2 0 0 0 0 4 Pending 0 3 3 1 1 4 4	1 0 0 1 2 1 1 0 0 0 0 0 0 0 0 5 5 Denied 9 7 7 12 14 4 9 9 166 22 2 8	1.3200 1.6363 2.2972 2.5782 2.7898 3.0818 3.0630 2.9557 3.8611 4.7427 28.3258 10.6867 14.5538 19.8949 23.4039 24.4237 32.0319 28.9783 27.2375	Pending 1.3200 2.6363 2.29772 2.5782 3.7898 5.0818 3.0630 2.9557 3.86111 4.7427 32.3258  IBNR + Pending 10.6867 17.5538 20.8949 24.4039 28.4237 36.0319 31.9783 38.2375	Award Ratio 0.093720 0.187177 0.16310 0.183052 0.269076 0.360808 0.217473 0.209855 0.274138 0.336732 2.295132  0.0071 Award Ratio 0.758756 1.246318 1.485353 1.732678 2.18081 2.250459 2.2004865	47,614,281 54,143,960 66,137,721 66,686,622 64,540,358 63,784,042 56,815,357 49,731,072 59,234,540 65,973,820 594,661,773  Payroll 229,498,510 268,411,486 323,199,008 323,960,001 293,506,562 321,754,757 261,874,874,757 261,874,874,757 261,874,874,757 261,874,874,757 261,874,874,757 261,874,874,757 261,874,874,874,874 261,874,874,874 261,874,874,874 261,874,874,874 261,874,874,874 261,874 261,874	Ultimate <u>Awarded</u> 0.093720 0.187177 0.163101 0.183052 0.269076 0.360808 0.217473 0.209855 0.274138 0.336732 2.295132 Expected Ultimate <u>Awarded</u> 1.755115 1.250786 2.553891 3.767714 4.168518 3.157846 2.852204 1.797852	Average Weekly Wage  836 845 858 888 917 932 951 1,025  Statewide Average Weekly Wage 836 845 858 888 917 932 951 978	<u>Factor</u>	Miner Years 890.7 977.4 1,156.5 1,134.3 1,059.9 1,038.8 930.5 798.9 908.0 981.9 9.876.9 Estimated Miner Years 4,124.0 4,706.5 5,573.5 5,376.0 4,664.7 4,917.0 3,982.1 3,212.6	Claims per 100  Miner Years 0.010522 0.019151 0.014103 0.016138 0.025387 0.034733 0.023372 0.026268 0.030191 0.034294 0.234159 0.023416  Frequency Claims per 100 Miner Years 0.046259 0.026576 0.045822 0.070084 0.089363 0.064223 0.071626 0.055963	0.023266
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL Average  GRAND TOTAL  YEAR 2009 2010 2011 2012 2013 2014 2015	Reported  1 1 2 2 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 1 0 0 1 2 2 0 0 0 4 Pending 0 3 1 1 1 4 4 4 3	Denied 9 7 12 14 4 9 16 22	1.3200 1.6363 2.2972 2.5782 2.7898 3.0618 3.0630 2.9557 3.8611 4.7427 28.3258 BBNR 10.6867 14.5538 19.8949 23.4039 24.4237 32.0319	Pending 1.3200 2.6363 2.2972 2.5782 3.7898 5.0818 3.0630 2.9557 3.8611 4.7427 32.3258  IBNR + Pending 10.6867 17.5538 20.8949 24.4039 28.4237 36.0319 31.9783	Award Ratio 0.093720 0.187177 0.16310 1.0183052 0.259076 0.366808 0.217473 0.209855 0.274138 0.336732 2.295132 0.071 Award Ratio 0.758756 1.246318 1.4835278 2.018081 2.558263 2.270487	47.614.281 54.143.960 66.137.721 66.686.622 64.540.358 63.784.042 56.815.357 49.731.072 59.234.540 65.973.820 594.661.773  Payroll 229.498.510 268.411.486 323.119.308 323.960.001 293.506.562 321.754.757 261.874.4410	Ultimate <u>Awarded</u> 0.093720 0.187177 0.163101 0.183052 0.269076 0.36088 0.2174473 0.209855 0.274138 0.2795132 Expected Ultimate <u>Awarded</u> 1.755115 1.250786 2.553891 3.767714 4.168518 3.157846 2.852204	Average  Weekly Wage  836 845 858 888 917 932 951 1,025  Statewide Average Weekly Wage 836 845 858 888 917 932 951	<u>Factor</u>	Miner Years 890.7 977.4 1,156.5 1,134.3 1,059.9 1,038.8 930.5 798.9 908.0 981.9 9,876.9  Estimated Miner Years 4,124.0 4,706.5 5,573.5 5,376.0 4,664.7 4,917.0 3,982.1	Claims per 100  Miner Years 0.010522 0.019151 0.014103 0.016138 0.025387 0.034733 0.023372 0.024268 0.030191 0.034294 0.234159 0.023416  Frequency Claims per 100 Miner Years 0.042559 0.024576 0.042559 0.024576 0.045822 0.070084 0.089363 0.064223 0.071626	0.023266
YEAR 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 TOTAL AVERA  GRAND TOTAL  YEAR 2009 2010 2011 2012 2013 2014 2015 2014 2015 2016 2017	Reported    1	Awarded  Awarded  1 0 0 0 0 0 0 0 0 0 0 0 1 1 1 0 0 0 0	0 1 0 0 1 2 2 0 0 0 4 Pending 0 3 1 1 1 4 4 4 3	Denied  Denied  P  7  1  0  0  0  0  0  1  1  0  0  0  1  1	1.3200 1.6363 2.2972 2.5782 2.7898 3.0818 3.0630 2.9557 3.8611 4.7427 28.3258 19.8949 23.4039 24.4237 32.0319 28.9783 27.2375 43.1907	Pending 1.3200 2.6363 2.2972 2.5782 3.7898 5.0818 3.0630 2.9557 3.8611 4.7427 32.3258  IBNR + Pending 10.6867 17.5538 20.8949 24.4039 28.4237 36.0319 31.9783 28.2375 44.1907	Award Ratio 0.093720 0.187177 0.163101 0.183052 0.269076 0.360808 0.217473 0.209855 0.274138 0.336732 2.295132  0.071 Award Ratio 0.758756 1.246318 1.483535 1.732678 2.018081 2.558263 2.270459 2.004865 3.137541	47.614.281 54.143.960 66.137.721 66.686.622 64.540.358 63.784.042 56.815.357 49.731.072 57.234.540 65.973.820 594.661.773  Payroll 229.498.510 229.498.510 229.498.510 229.376.201 229.356.562 221.754.757 261.874.410 217.828.631.355	Ultimate <u>Awarded</u> 0.093720 0.187177 0.163101 0.183052 0.269076 0.360808 0.217473 0.209855 0.274138 0.336732 2.295132 Expected Ultimate <u>Awarded</u> 1.755115 1.250786 2.553891 3.767714 4.168518 3.157846 2.852204 1.797852 2.343065	Average Weekly Wage  836 838 845 858 888 917 932 951 1,025  Statewide Average Weekly Wage 836 845 858 888 888 888 888 888 888 888 888	<u>Factor</u>	Miner Years 890.7 977.4 1,156.5 1,134.3 1,059.9 1,038.8 930.5 798.9 908.0 981.9 9,876.9  Estimated Miner Years 4,124.0 4,706.5 5,573.5 5,376.0 4,664.7 4,917.0 3,982.1 3,212.6 4,030.5	Claims per 100  Miner Years 0.010522 0.019151 0.014103 0.016138 0.025387 0.034733 0.023372 0.026268 0.030191 0.034294 0.234159 0.023416  Frequency Claims per 100  Miner Years 0.042559 0.026576 0.045822 0.070084 0.089363 0.064223 0.071626 0.055963 0.058133	0.023266

Source: Claim counts - CMCRB OD Database as of 4/30/2019 IBNR: Exhibit VIII-C

IBNR: Exhibit VIII-C
Payroll- Exhibit VIII-C
Payroll- Exhibit X-A
The Award Ratio is equal to Awarded ÷ (Awarded plus Denied). Other Classes use the Total Award Ratio: 0.071=08 / [08 + 104]
The Wage Adjustment Factor was derived from CMCRB data. See Exhibit X-G
Estimated Miner Years = Payroll / [SAWW x Adj. Factor x 52]
Frequency per 100 Miner Years = [Expected Ult. Awarded / Est. Miner Years) x 100
File: k:\OneDrive\Clients\Coal Mine\2019 Rate Filing\XL\[2019-08-B-2.xlsm]VIII-B-3
Run Date: September 23, 2019 - 09:35:31 AM

COAL MINE COMPENSATION RATING BUREAU FEDERAL OCCUPATIONAL DISEASE ANTHRACITE UNDERGROUND (0160)

Claims with File Dates on or before 12-31-2018, Valued as of 4-30-2019

															quency and									Claims wit	th File Dates	on or befor	e 12-31-201	8, Valued as	of 4-30-2019
Reported Cit Months  12 24 36 48 60 72 84 96 108 120 132 144 156 168 180 192 204 216 228 240	1992 1 1992 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1993 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1994	1995 0 0 0 0 0 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2	1996 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1997	1998 0 0 0 0 0 0 0 0 0 0 0 0 0	1999 0 0 0 1 1 1 1 1 1 2 2 3 3 3 3 3 3 3 3	2000	2001 0 0 2 2 2 2 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4	2002 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2003 0 0 0 0 0 0 0 1 1 1 1 1 1 1	2004 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Yec 2005 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		2007 0 0 0 0 0 0 0 0 0	2008 0 0 0 0 0 1 1 1 1 1	2009	2010 0 0 0 0 0 0 0 0	2011 0 0 1 2 2 2 2 2 2 2	2012	2013 1 1 1 2 2 2	2014 0 0 0 0 0	2015 0 0 0	2016 0 0 0	2017 0 0	2018 0		
Incremental 12-24 24-36 36-48 48-60 60-72 72-84 84-96 96-108 108-120 120-132 132-144 144-156 156-168 168-180 180-192 192-204 204-216 216-228 228-240	Changes  0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 1 1 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 1 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 1 1 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 1 1 0 0 0	0 0 0 0 0 0 0 0	0 0 0 1 0	0 0 0 0	0 0 0	0 0	0			
180-192 192-204 204-216 216-228	0.00000 0.00000 0.00000	0.00000 0.00000 0.00000	0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000		0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	0.61105 0.61105 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	0.00000		2004 1.34532 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2005 1.41757 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2006 1.44252 0.69323 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2007 1.66254 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2008 2.13671 0.00000 0.00000 0.00000 0.00000 0.46801 0.00000 0.00000 0.00000 0.00000	2009 1.33587 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2010 1.29959 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2011 1.25794 0.00000 0.79495 0.00000 0.00000 0.00000 0.00000	2012 1.02926 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2013 0.38188 0.00000 0.00000 0.00000 2.61862 0.00000	2014 0.25881 0.00000 0.00000 0.00000 0.00000	2015 0.25434 0.00000 0.00000 0.00000	2016 0.16376 0.00000 0.00000	2017 0.25238 0.00000	2018 0.18335	Average 0.05333 0.06115 0.06115 0.20143 0.08300 0.04700 0.05680 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.05548 0.08605 0.00000 0.00000 0.00000 0.05549 0.08605 0.00000 0.00000 0.00000 0.05674 0.00000 0.05674 0.00000 0.05674 0.00000 0.05674 0.00000 0.05674 0.00000 0.05675 0.0	Smoothed 0.20143 0.14938 0.08605 0.08300 0.06115 0.05674 0.05548 0.05333 0.04700 0.000000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.000000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.000000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.000000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.000000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.0000
IBNR Claims Cumulative I times Payroll																				0.21255 0.26738									

Source: Coal Mine Compensation Rating Bureau Database as of 4-30-2019
Payrolls: Exhibit X-A-3
File: k:\OneDrive\Client\\Coal Mine\2019 Rate Filing\XL\[2019-08-C.xlsm]VIII-C-1
Run Date: September 23, 2019 - 09:37:36 AM

COAL MINE COMPENSATION RATING BUREAU FEDERAL OCCUPATIONAL DISEASE BITUMINOUS UNDERGROUND (0158)

Claims with File Dates on or before 12-31-2018, Valued as of 4-30-2019

													Incre	emental Fre	anency an	d IRNR								Claims wit	th File Dates	on or befor	e 12-31-201	8, Valued as	of 4-30-2019
Reported Claims Months  12 24 36 48 60 72 84 96 108 120 132 144 156 168 180 192 204 216 228 240	\$ 1992 2 4 4 8 8 10 13 13 14 18 18 18 18 19 20 20 22 24	1993 1 1 2 3 4 4 4 5 5 5 5 6 6 6 7 7 7 8 8 8 9 9	1994 4 4 7 8 9 9 9 9 11 11 11 11 11 12 13 13 14 15	1995 3 3 5 6 7 8 8 8 8 8 8 8 8 9 9 9 10 10 10	1996 0 2 2 2 3 4 4 5 5 5 5 5 5 5 5 5 6 8 8 8	1997 0 1 4 5 6 6 7 7 7 7 7 8 8 9 9 9 9 9 9 9	1998 1 2 5 5 5 5 5 5 5 5 5 5 6 6 6 7 7 7 100	1999 2 4 6 7 7 7 7 8 9 9 10 11 15 16 16 16 17 18 19 19 20 22	2000 2 4 4 4 4 5 5 5 7 10 10 13 20 33 35 38 46	2001 1 1 2 2 3 4 4 4 6 6 7 7 7 7 7 7 7 7	2002 1 2 4 5 6 6 6 7 7 7 111 113 15 16 17 17 20	2003 0 0 0 0 0 0 0 0 1 1 1 1 1	2004 0 0 1 2 2 2 2 2 2 2 2 2 2 2 2 3 3 3 3	Yec 2005		2007 0 0 2 2 3 3 3 4 4 4 4 4	2008 0 1 1 1 1 1 1 1 1 1 1	2009 0 1 1 4 4 4 5 5 5 5 5 5	2010 0 2 2 2 2 2 3 3 4 4 5	2011 2 2 2 2 2 4 4 6 6	2012 1 3 4 4 4 5	2013 2 3 3 3 3 4	2014 3 6 10 12 15	2015 6 10 14 18	2016 4 5 7	2017 3 4	2018		
Incremental Chc 12-24 24-36 36-48 48-60 60-72 72-84 84-96 96-108 108-120 120-132 132-144 144-156 156-168 168-180 180-192 192-204 204-216 216-228 228-240	1 0 1 0 0 2 2 2	0 0 1 0 1 0 0 1 0 0	0 0 0 0 1 1 0 0 1 1 2 2	0 0 0 1 0 0 1 1 0 0	0 0 0 0 0 0 0 1 2 2 0	0 0 0 1 1 0 0 0 0 0 1 1 1 1 1	0 0 0 0 0 0 1 1 0 0 1	0 1 1 1 4 4 1 1 0 0 1 1 1 1 2	0 1 0 0 0 2 3 3 0 3 7 7 13 2 3 8	1 1 0 0 2 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 0 0 0 1 0 4 0 2 2 2 1 1 0 0 3	0 0 0 0 0 0 0 1 0 0 0 0 0 0 0	0 1 1 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 1 1 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 2 0 1 0 0 0 1 0 0 0	1 0 0 0 0 0 0 0 0	1 0 3 0 1 0 0 0	2 0 0 0 1 1 1 0 1 1	0 0 0 2 0 2 0	2 1 0 0 0 1	1 0 0 0 1	3 4 2 3	4 4 4	1 2	1			
12-24 24-36 36-48 48-60 60-72 72-84 84-96 96-108 108-120 120-132 132-144 144-156 156-168	.00000 .01577 .00000 .00000 .03155	0.00000 0.01895 0.00000 0.01895 0.00000 0.00000 0.01895	0.00000 0.00000 0.01650 0.01650 0.01650	0.00000 0.00000 0.01532 0.00000 0.01532 0.00000	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.01329 0.02659 0.00000	0.00000 0.01421 0.01421 0.00000 0.00000 0.00000 0.00000 0.01421	0.00000 0.00000 0.00000 0.00000 0.00000 0.01637 0.00000 0.04911 0.00000	0.01704 0.01704 0.01704 0.01704 0.06816 0.01704 0.00000 0.01704 0.01704 0.01704 0.01704 0.00000	0.02104 0.00000 0.00000 0.00000 0.04209 0.06313 0.00000 0.06313 0.14730	0.02061 0.00000 0.00000 0.04122 0.00000 0.02061 0.00000 0.00000 0.00000 0.00000	0.02449 0.00000 0.00000 0.02449 0.00000 0.09795 0.00000 0.04897 0.02449 0.002449	0.00000 0.00000 0.00000 0.00000 0.00000 0.022740 0.00000 0.00000 0.00000 0.00000 0.00000	2004 46.07390 0.02170 0.02170 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2005 66.27576 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2006 70.46594 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.01419	0.02503 0.00000 0.01251 0.00000 0.00000 0.01251 0.00000	2008 101.35398 0.00987 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2009 101.34814 0.00987 0.00000 0.02960 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2010 125.39358 0.01595 0.00000 0.00000 0.00000 0.00797 0.00797 0.00000 0.00797	2011 148.48571 0.00000 0.00000 0.00000 0.01347 0.00000 0.01347 0.00000	2012 153.61891 0.01302 0.00651 0.00000 0.00000 0.00000 0.00651	2013 145.14625 0.00689 0.0000 0.00000 0.00000 0.000689	2014 183.43195 0.01635 0.02181 0.01090 0.01635	2015 140.57028 0.02846 0.02846 0.02846	2016 118.54548 0.00844 0.01687		2018 179.74657 Total=	Average 0.00882 0.00926 0.00697 0.00514 0.00349 0.00416 0.00720 0.00885 0.00723 0.01725 0.02827 0.01838 0.01725 0.02827 0.01638 0.01902 0.02962 0.01411 0.02962	Smoothed 0.02962 0.02827 0.01902 0.01725 0.01638 0.01494 0.00926 0.00918 0.00885 0.00882 0.00723 0.00723 0.00720 0.00697 0.00514 0.00416 0.00493 0.00416
IBNR Claims Cumulative Factimes Payroll	tor															0.04696 3.75230													

Source: Coal Mine Compensation Rating Bureau Database as of 4-30-2019
Payrolls: Exhibit X-A-3
File: k:\OneDrive\Client\\Coal Mine\2019 Rate Filing\XL\[2019-08-C.xlsm]VIII-C-2
Run Date: September 23, 2019 - 09:37:36 AM

COAL MINE COMPENSATION RATING BUREAU FEDERAL OCCUPATIONAL DISEASE ANTHRACITE SURFACE (0153)

Claims with File Dates on or before 12-31-2018, Valued as of 4-30-2019

													Incre	emental Fre	auency an	d IBNR								Claims wit	h File Dates	on or befor	e 12-31-201	8, Valued as	of 4-30-2019
Reported Cla Months  12 24 36 48 60 72 84 96 108 120 132 144 156 168 180 192 204 216 228 240	1992 5 10 11 13 14 14 14 14 14 14 14 14 14 14 15 15	1993 100 14 16 21 22 23 24 24 24 24 24 25 25 25 25 25 25	1994 111 14 17 19 21 21 21 21 22 23 23 23 24 24 24 24 24 24 25	1995 2 6 100 112 13 13 15 16 19 21 21 21 21 22 24 24 24 24 24 24	1996 6 6 6 8 8 9 9 9 9 9 9 10 10 11 11	1997 4 7 7 8 8 8 8 8 8 8 8 9 9 9 9 9 9	1998 4 6 6 7 7 7 8 8 8 8 8 9 9 9 9 9 9 9	1999 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1	2000 1 4 4 5 5 5 5 7 7 7 7 7 7 7 7 10 10	2001 2 2 2 4 5 5 5 5 6 6 7 7 7 7 7	2002 3 3 4 5 5 6 6 6 6 6 6 6 6 6	2003 0 1 3 3 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	2004 2 3 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Yes 2005 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2006 0 0 0 0 1 1 1 1 1 1 1 1	2007 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2008 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2009 0 0 1 1 1 2 2 2 2 2 2	2010 0 0 0 0 0 0 0 0 0 2 2 2	2011	2012 0 0 1 1 1 1 1 1 1 1	2013	2014 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2015 0 1 1 1 1	2016 1 2 2	2017	2018 0		
Incremental 12-24 24-36 36-48 48-60 60-72 72-84 84-96 96-108 108-120 120-132 132-144 144-156 156-168 180-192 192-204 204-216 216-228 228-240	0 0 0 0 0	0 1 0 0 0	0 0 0 0 0 0 0 1	0 0 0 2 1 1 0 0	0 0 0 0 0 1 1 0 0	0 0 0 0 1 1 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0	2 0 0 0 1 0 0 0 0 0 0 0 0	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 1 1 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	2 0 0 0 0 0 0 0 0 0	0 1 0 0 1 1 0 0 0	0 0 0 0 0 0 0 0	1 0 0 0 0 0	0 1 0 0 0	0 0 0 1 1	0 0 0 0	1 0 0	1 0	0			
12-24 24-36 36-48 48-60 60-72 72-84 84-96 96-108 108-120 120-132 132-144 144-156 156-168 168-180 108-192 192-204 204-216	0.00000 0.00000 0.00000 0.00000 0.003393	0.03322 0.00000 0.00000 0.00000 0.00000	0.00000 0.03310 0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.09858 0.04929 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000 0.00000 0.06174 0.00000 0.04176 0.00000	0.00000 0.00000 0.00000 0.05623 0.00000 0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.05755 0.00000 0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.05423 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000 0.11899 0.00000 0.00000 0.00000 0.00000 0.00000 0.17849 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000 0.07738 0.00000 0.07738 0.00000 0.00000 0.00000	0.00000 0.09053 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.08383 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2004 12.35973 0.00000 0.00000 0.08091 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2005 12.14091 0.08237 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2006 12.06532 0.00000 0.00000 0.08288 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2007 14.86656 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2008 16.22023 0.12330 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2009 15.89353 0.00000 0.06292 0.00000 0.00000 0.06292 0.00000 0.00000 0.00000 0.00000	2010 13.31919 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.15016 0.00000	0.05126 0.00000 0.00000 0.00000 0.00000 0.00000	2012 24.73471 0.00000 0.04043 0.00000 0.00000 0.00000 0.00000	2013 20.72001 0.00000 0.00000 0.00000 0.04826 0.04826	2014 18.91134 0.00000 0.00000 0.00000 0.00000	2015 22:23435 0.04498 0.00000 0.00000	2016 19.25711 0.05193 0.00000	2017 19.09463 0.00000	2018 18.33274	Average 0.02722 0.00795 0.00638 0.00994 0.01155 0.00545 0.01155 0.01332 0.00595 0.00443 0.00433 0.00434 0.00000 0.02184 0.00000 0.00377 0.00414 0.16996	Smoothed 0.02722 0.02184 0.01552 0.01332 0.01268 0.01155 0.00994 0.00854 0.00645 0.00645 0.00645 0.00595 0.00433 0.00433 0.00433 0.00433 0.00433 0.00430 0.00430 0.00430 0.00430 0.00430 0.00430 0.00430 0.00430 0.00430 0.00430 0.00430 0.00430 0.00430 0.00430 0.00430 0.00430 0.00430 0.00430 0.00443 0.00430 0.00443 0.00444
IBNR Claims Cumulative F times Payroll	actor																			0.05789 1.12929									

Source: Coal Mine Compensation Rating Bureau Database as of 4-30-2019
Payrolls: Exhibit X-A-3
File: k:\OneDrive\Client\\Coal Mine\2019 Rate Filing\XL\[2019-08-C.xlsm]VIII-C-3
Run Date: September 23, 2019 - 09:37:36 AM

COAL MINE COMPENSATION RATING BUREAU FEDERAL OCCUPATIONAL DISEASE

BITUMINOUS SURFACE (0156) Claims with File Dates on or before 12-31-2018, Valued as of 4-30-2019

													Incre		quency an	d IBNR								Claims wit	in File Dates	on or befor	e 12-31-201	8, Valuea as	01 4-30-2019
Reported Clai Months  12 24 36 48 60 72 84 96 108 120 132 144 156 168 180 192 204 216 228 240	1992 6 13 17 19 19 20 20 20 22 23 23 23 23 24 24 24 25 26 26 27	1993 1 3 5 6 8 9 9 9 10 10 10 10 10 11 11 13 13 13	1994 1 5 6 7 8 8 9 10 11 12 13 13 13 13 14 14 14 15 15 15	1995 5 7 8 100 111 133 144 155 188 21 21 21 22 22 22 22 22 22 22 24 24 24 24	1996 4 5 5 6 7 8 9 9 10 10 10 11 11 11 12 13 13 13 14 14 15	1997 2 3 3 5 5 5 7 7 7 8 8 8 8 8 9 100 10 10	1998 0 2 2 2 2 2 3 3 3 4 5 5 5 6 6 6 6 6 6 6 7 7 8 9 9	1999 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2000 3 3 3 5 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 8 8 8 10 0 10	2001 0 1 1 1 1 1 2 2 2 2 2 2 3 3 3 3 4 5 7 7 7	2002 1 2 2 2 2 2 2 2 2 2 2 2 2 4 4 4 4 4 4	2003 0 0 1 1 1 1 1 2 3 3 4 5 5 5	2004 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2 2	Yes 2005 0 0 1 1 1 1 1 1 1 1 2	2006 0 1 1 2 2 2 4 4 4 4 4 4 4 4	2007 2 2 2 3 3 4 4 4 5 5 5	2008 0 1 1 1 1 4 5 5 5 5 6	2009	2010 1 1 1 1 1 2 2 2 2 2	2011 0 1 1 2 3 3 4 4	2012 3 8 8 8 8 9	2013 2 2 2 3 3 4	2014 0 1 1 1 3	2015 1 3 6 7	2016 0 0	2017	2018 0		
Incremental C 12-24 24-36 36-48 48-60 60-72 72-84 84-96 96-108 108-120 120-132 132-144 144-156 156-168 180-192 192-204 204-216 216-228 228-240	1 0 0 1 1	0 0 1 0 2 0 0	0 0 0 1 0 0 0 0 0 0 0 0	0 0 0 1 0 0 0 0 2 0	0 1 0 0 1 1 1 0 0	0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 0 0 0 0 0 0 1 1 1 1	0 0 0 0 0 0 0 0 0 0 0	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 1 0 0 0 1 1 0 0 0 1 1 2 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 0 0 0 1 1 1 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 0 0 0 0 0 0 0 0 0	1 0 1 0 0 0 2 2 0 0 0 0 0	0 0 1 0 1 0 0 0 0	1 0 0 0 3 3 1 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 1 1 0 0	1 0 1 1 0 0	5 0 0 0 0	0 0 1 0 1	1 0 0 0 2 2	2 3 1	0 0	0			
12-24 24-36 36-48 48-60 60-72 72-84 84-96 96-108 108-120 120-132 132-144 144-156 156-168 168-180 180-192 192-204 204-216 216-228	0.00000 0.00000 0.00000 0.00990 0.00990 0.00990	0.00000 0.01058 0.00000 0.01215 0.00000 0.00000 0.00000	0.00000 0.01081 0.00000 0.00000 0.01081 0.00000 0.00000	0.00000 0.00000 0.00000 0.01270 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	0.01285 0.00000 0.00000 0.01285 0.01285 0.00000 0.00000 0.01285 0.00000	0.01473 0.00000 0.00000 0.00000 0.00000 0.00000 0.01473 0.01473 0.00000	1998 63.65156 0.01571 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.01571 0.01571 0.01571 0.01571	0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2000 49,93562 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.2003 0.00000 0.04005 0.00000	0.00000 0.01720 0.00000 0.00000 0.00000 0.01720 0.00000 0.01720 0.01720	0.00000 0.00000 0.00000 0.00000 0.00000 0.01869 0.01869 0.00000 0.00000 0.00000	0.00000 0.00000 0.00000 0.00000 0.00000 0.02089 0.02089 0.02089 0.02089 0.00000	2004 56.21730 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.01779 0.00000 0.00000 0.00000 0.00000 0.00000	2005 64.87156 0.00000 0.01542 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2006 63.79850 0.01567 0.00000 0.01567 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2007 64,80809 0.00000 0.00000 0.01543 0.00000 0.01543 0.00000 0.00000 0.01543 0.00000 0.01543 0.00000		2009 63.30670 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.01580 0.00000	2010 74.25518 0.00000 0.00000 0.00000 0.01347 0.00000 0.00000 0.00000	2011 87.73051 0.01140 0.00000 0.01140 0.01140 0.00000 0.01140 0.00000	2012 77.89050 0.06419 0.00000 0.00000 0.00000 0.00000 0.01284	2013 62.71806 0.00000 0.00000 0.01594 0.00000 0.01594	2014 55.36862 0.01806 0.00000 0.00000 0.03612	2015 42.00009 0.04762 0.07143 0.02381	2016 30.13122 0.00000 0.00000	2017 34.24896 0.00000	2018 36.11043	Average 0.01310 0.00648 0.00633 0.00366 0.00654 0.00663 0.00000 0.00407 0.00478 0.00161 0.00531 0.00576 0.00576 0.01224 0.00380 0.00282 0.01224	Smoothed 0.01310 0.01224 0.00673 0.00668 0.00667 0.00657 0.00654 0.00657 0.00576 0.00576 0.00531 0.00403 0.00380
IBNR Claims Cumulative Fo times Payroll	actor																		0.03774 2.80239										

Source: Coal Mine Compensation Rating Bureau Database as of 4-30-2019
Payrolls: Exhibit X-A-3
File: k:\OneDrive\Client\\Coal Mine\2019 Rate Filing\XL\[2019-08-C.xlsm]VIII-C-4
Run Date: September 23, 2019 - 09:37:36 AM

COAL MINE COMPENSATION RATING BUREAU

EFREPA I OCCUPATIONAL DISEASE

FEDERAL OCCUPATIONAL DISEASE
OTHER CLASSIFICATIONS - FEDERAL

Claims with File Dates on or before 12-31-2018, Valued as of 4-30-2019
Incremental Frequency and IBNR

													incien	ileiliui rieqi	belicy ullu i	DIAK											
Reported Clair														Year													
Months	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
12	0	1	0	0	0	1	1	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
24	1	1	0	0	0	2	2	1	0	0	1	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	
36	1	1	0	0	0	4	2	3	1	0	1	0	1	1	0	0	0	0	0	1	0	1	0	0	0		
48	1	1	0	0	0	4	2	3	1	0	1	0	1	1	0	0	0	0	0	1	1	2	0	0			
60	2	1	0	0	0	5	2	4	1	0	1	0	1	1	0	0	0	0	0	1	1	2	2				
72	2	1	0	0	0	6	2	4	1	0	2	0	1	1	0	0	0	1	0	1	2	2					
84	2	1	0	0	0	6	3	4	1	0	2	1	1	1	0	0	0	1	1	1	2						
96	2	1	0	0	0	6	3	4	1	0	2	1	1	2	0	0	0	1	1	1							
108	2	1	0	0	0	6	3	4	1	0	2	1	1	2	1	1	0	1	1								
120	2	1	0	0	0	6	3	4	1	0	2	1	1	2	2	1	0	1									
132	2	1	0	0	0	6	3	4	1	0	2	1	1	2	2	1	0										
144	2	1	0	0	0	6	3	5	1	0	2	1	1	2	3	1											
156	2	1	0	0	0	6	3	5	1	0	2	1	1	2	3												
168	2	1	0	0	0	6	3	5	1	0	2	1	1	2													
180	2	1	0	0	0	7	3	5	1	0	2	1	1														
192	2	1	0	0	0	7	3	5	1	0	2	1															
204	2	1	0	0	0	7	3	5	2	0	2																
216	2	1	0	0	0	7	3	5	3	0																	
228	2	1	0	0	0	7	3	5	3																		
240	2	1	0	0	0	8	3	5																			

Payroll 1992 1993 1994 1995 1996 1997 1998 1999 2000 2010 2012 2013 2014 2015 2016 2017 2018 (\$Millions) 47.49607 58.7479 60.28848 60.34187 62.83464 73.62183 31.35678 30.45185 29.53686 30.95943 32.0981 36.30165 44.70078 51.98593 53.57718 59.51941 55.25499 47.61428 54.14396 66.13772 66.68662 64.54036 63.7840 56.81536 49.73107 59.23454 65.97382

COAL MINE COMPENSATION RATING BUREAU FEDERAL OCCUPATIONAL DISEASE

ALL CLASSIFICATIONS

Claims with File Dates on or before 12-31-2018, Valued as of 4-30-2019

													Incre	mental Fre	quency and	H IRNR								Claims with	n File Dates	on or before	e 12-31-201	8, Valued as	of 4-30-2019
Reported Cla Months  12 24 36 48 60 72 84 96 108 120 132 144 156 168 180 192 204 216 228 240	1992 14 29 34 42 47 51 51 51 59 59 59 59 61 62 63 64 67	1993 13 21 26 33 36 38 39 41 42 42 42 43 34 44 46 46 49 50 50	1994 17 24 31 35 39 40 41 42 45 47 48 48 48 50 51 52 53 54 55	1995 100 16 23 28 31 35 38 40 46 51 51 51 52 56 57 57 58 60 60	1996 9 13 13 14 16 20 21 24 24 24 25 25 25 26 28 30 33 33 33 34	1997 7 13 18 22 24 26 28 28 29 30 31 32 32 32 33 34 35 36 37	1998 6 12 15 16 16 16 18 19 20 21 21 21 23 32 24 25 26 27 32 33 33	1999 2 7 7 111 112 14 14 14 15 16 6 18 19 24 26 26 28 29 30 30 31 33 33 35	2000 6 12 13 16 17 18 19 19 21 23 26 26 26 29 36 50 50	2001 3 4 7 9 11 13 15 15 18 21 21 21 22 23 25 25 26	2002 6 8 11 13 14 16 16 17 7 17 7 22 23 25 28 30 31 31 34	2003 0 1 4 4 4 4 6 7 9 10 10 11 11 12 12 12	2004 4 5 6 7 8 8 8 8 8 9 9 9 10 10	Yec 2005 2 2 3 4 4 4 4 5 6 6 6 6 6 6 6 7 7		2007 4 4 6 7 8 9 9 10 11 11 12 12 12	2008 0 4 4 4 4 8 8 9 9 9 9 9	2009 1 2 3 6 6 9 9 9 10 10	2010 1 3 3 3 3 5 7 9 10	2011 2 4 6 8 11 11 11 14 14	2012 4 11 13 14 14 15 17	2013 6 8 8 10 12 15	2014 4 8 12 14 21	2015 7 14 21 26	2016 5 7 9	2017 5 6	2018		
Incremental 1 12-24 24-34 36-48 48-60 60-72 72-84 84-96 108-120 120-132 132-144 144-156 156-168 168-180 180-192 192-204 204-216 216-228 228-240	2 0 1 1 1 3 3	0 1 2 0 3 3 0	0 0 2 1 1 1 1 1 3	0 0 1 4 1 0 1 1 2 0	0 1 1 0 0 0 1 1 2 0 0 2 2 3 0 0 1	0 1 1 1 0 0 1 1 1 1 1 1 2 2	1 1 0 0 2 0 1 1 1 1 5 1	0 1 1 2 1 5 2 2 0 2 1 1 1 2 2 2 2 2 2 2 2	1 1 0 0 2 2 3 0 3 7 14 6 6 8	2 2 2 2 0 3 0 0 3 0 0 1 1 1 2 0 0	2 1 2 2 0 1 0 5 5 1 1 2 2 3 2 2 1 0 3	3 0 0 0 2 1 1 2 2 1 0 0 1 0 0	1 1 1 1 0 0 0 0 0 0 1 0 0 0	1 1 0 0 0 1 1 1 0 0 0 0 0 0 1 1 1	2 0 2 0 0 2 0 1 1 0 1	0 2 1 1 1 0 1 1 1 0 0	4 0 0 0 0 0 4 1 1 0 0 0 1 1	1 1 3 0 3 3 0 0 0 0	2 0 0 0 2 2 2 1	2 2 2 3 0 0 3 0	7 2 1 0 1 1 2	2 0 2 2 3 3	4 4 2 7	7 7 5	2 2	1			
12-24 24-36 36-48 48-60 60-72 72-84 84-96 96-108 108-120 120-132 132-144 144-156 156-168 168-180 180-192 192-204 204-216 216-228	0.00000 0.00413 0.00413 0.00413 0.01238	0.00421 0.00843 0.00000 0.01264 0.00000 0.00421	0.00000 0.00817 0.00408 0.00408 0.00408 0.00408	0.00000 0.00442 0.01769 0.00442 0.00004 0.000442 0.00004	0.00428 0.00000 0.00000 0.00428 0.00856 0.00000 0.01284 0.01284	0.00432 0.00432 0.00432 0.00432 0.000432 0.00432 0.00432 0.00432 0.00432	0.00571 0.00000 0.00000 0.01141 0.000571 0.00571 0.00571 0.02853 0.00571	0.00611 0.00611 0.01223 0.00611 0.03057 0.01223 0.00611 0.00611 0.00611	0.00689 0.00000 0.00000 0.01378 0.01378 0.02067 0.00000 0.02067 0.04822	0.01314 0.00314 0.00000 0.01971 0.00000 0.01971 0.00000 0.00000 0.00000 0.00657 0.00657 0.00657 0.01314	0.00720 0.01440 0.00000 0.00720 0.00000 0.03600 0.00720 0.01440 0.02160 0.01440 0.00720 0.00720	0.00000 0.00000 0.00000 0.01493 0.00747 0.01493 0.00747 0.00000 0.00747 0.00000 0.00000	2004 160.69703 0.00622 0.00622 0.00622 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	2005 196.69173 0.00508 0.00508 0.00000 0.00000 0.00008 0.00508 0.00508 0.00000 0.00000 0.00000 0.00000 0.00000	2006 201.34946 0.00993 0.00000 0.00993 0.00000 0.00993 0.00000 0.00993 0.000497 0.000497 0.000497	2007 220.76087 0.00000 0.00906 0.00453 0.00453 0.000453 0.00453 0.00453 0.00453 0.00453 0.00453	2008 249.56714 0.01603 0.00000 0.00000 0.00000 0.00401 0.00000 0.00000 0.00000 0.00000	2009 229,49852 0.00436 0.01307 0.00000 0.01307 0.00000 0.00000 0.00436 0.00000	2010 268.41150 0.00745 0.00000 0.00000 0.00000 0.00745 0.00745 0.00745 0.00737	2011 323.11931 0.00619 0.00619 0.00619 0.00928 0.00000 0.00928 0.00000	2012 323.96000 0.02161 0.00617 0.00309 0.00000 0.00309 0.00617	2013 293.50656 0.00681 0.00000 0.00681 0.00681 0.01022	2014 321.75476 0.01243 0.01243 0.00642 0.00622 0.02176	2015 261.87442 0.02673 0.02673 0.01909	2016 217.82864 0.00918 0.00918	2017 285.63135 0.00350	2018 3300.34691 Total=	Average 0.00995 0.00657 0.00578 0.00429 0.00630 0.00591 0.00291 0.00493 0.00463 0.00463 0.00463 0.00464 0.001116 0.01168 0.01089 0.00622 0.01683 0.01689	Smoothed 0.01168 0.01116 0.01089 0.01026 0.00995 0.00844 0.00722 0.00689 0.00668 0.00630 0.00622 0.00591 0.00493 0.00493 0.00493 0.00493 0.00493
IBNR Claims Cumulative F times Payroll	actor																					0.08142 23.89730				0.12368 35.32689	0.13536 40.65496		

# FEDERAL OCCUPATIONAL DISEASE ALL CLASSIFICATIONS

#### **IBNR By Class**

#### CLASSIFICATION

			Anthropita	Dituncio	Anthracita	Diturnin our
A. IBNR Factor	Coke	Auger	Co-Gen		Anthracite Prep Plant	Bituminous Prep Plant
Year	0154	0157	0181	0182	0183	0184
2009	0.0522	0.0522	0.0522	0.0522	0.0522	0.0522
2010	0.0522	0.0522	0.0522	0.0522	0.0522	0.0522
2011	0.0658	0.0658	0.0658	0.0658	0.0658	0.0658
2012	0.0730	0.0730	0.0730	0.0730	0.0730	0.0730
2013	0.0814	0.0814	0.0814	0.0814	0.0814	0.0814
2014	0.0914	0.0914	0.0914	0.0914	0.0914	0.0914
2015	0.1016	0.1016	0.1016	0.1016	0.1016	0.1016
2016	0.1125	0.1125	0.1125	0.1125	0.1125	0.1125
2017	0.1237	0.1237	0.1237	0.1237	0.1237	0.1237
2018	0.1354	0.1354	0.1354	0.1354	0.1354	0.1354
B. Adjustment Factor	0.2000	0.4000	0.5000	0.5000	1.0000	0.5000
C. Payroll Per \$1M						
2009	5.17355	0.94696	7.53474	7.86641	6.26461	19.82801
2010	5.43566	0.82750	7.95805	8.73270	4.87693	26.31313
2011	3.59909	1.17626	10.98164	9.10241	6.12326	35.15507
2012	5.73811	0.80821	9.31181	9.04775	7.56902	34.21173
2013	4.79191	1.04695	7.63076	10.35588	7.07489	33.63997
2014	4.46440	0.86159	8.36090	11.72118	6.52154	31.85443
2015	4.34038	0.65477	9.55481	11.74821	6.19660	24.32061
2016	4.43507	0.39278	7.95331	11.32755	5.54297	20.07940
2017	4.56611	0.56632	7.79356	11.43506	6.05681	28.81668
2018	4.45680	0.56013	10.01842	11.99661	6.88832	32.05355
D. IBNR						
2009	0.0540	0.0198	0.1966	0.2053	0.3269	0.5174
2010	0.0640	0.0175	0.2342	0.2570	0.2871	0.7745
2011	0.0473	0.0309	0.3611	0.2993	0.4027	1.1559
2012	0.0838	0.0236	0.3398	0.3302	0.5524	1.2484
2013	0.0780	0.0341	0.3106	0.4216	0.5760	1.3695
2014	0.0816	0.0315	0.3820	0.5355	0.5959	1.4553
2015	0.0882	0.0266	0.4855	0.5970	0.6298	1.2359
2016	0.0998	0.0177	0.4475	0.6373	0.6237	1.1297
2017	0.1129	0.0280	0.4820	0.7071	0.7491	1.7820
2018	0.1207	0.0303	0.6780	0.8119	0.9324	2.1694

Source: IBNR Factor - Exhibit VIII-C-6
Adjustment Factor - Judgement

Payrolls: Exhibit X-A-3
IBNR = A times B times C

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# COAL MINE COMPENSATION RATING BUREAU FEDERAL OCCUPATIONAL DISEASE ALL CLASSIFICATIONS

#### **IBNR By Class**

#### CLASSIFICATION

					Anthracite	Bituminous
A. IBNR Factor	Coke	Auger	Co-Gen	Co-Gen	<u>=</u> '	Prep Plant
Year	0154	0157	0181	0182	0183	0184
1999	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2000	0.0029	0.0029	0.0029	0.0029	0.0029	0.0029
2001	0.0072	0.0072	0.0072	0.0072	0.0072	0.0072
2002	0.0118	0.0118	0.0118	0.0118	0.0118	0.0118
2003	0.0165	0.0165	0.0165	0.0165	0.0165	0.0165
2004	0.0214	0.0214	0.0214	0.0214	0.0214	0.0214
2005	0.0272	0.0272	0.0272	0.0272	0.0272	0.0272
2006	0.0331	0.0331	0.0331	0.0331	0.0331	0.0331
2007	0.0393	0.0393	0.0393	0.0393	0.0393	0.0393
2008	0.0456	0.0456	0.0456	0.0456	0.0456	0.0456
B. Adjustment Factor	0.2000	0.4000	0.5000	0.5000	1.0000	0.5000
C. Payroll Per \$1M						
1999	12.29348	1.13689	3.60431	1.49428	1.23112	10.69178
2000	12.09257	1.20588	4.47346	1.87072	1.31947	8.57476
2001	10.37583	1.42913	4.66181	2.12133	2.21630	10.15503
2002	10.48501	1.15084	5.65877	2.38612	2.32282	10.09455
2003	11.53408	1.10222	7.00962	3.05252	3.40800	10.19521
2004	12.04913	1.05880	7.35151	6.37448	4.40665	13.46020
2005	12.86098	1.02654	7.85529	8.52475	5.17007	16.54831
2006	12.73739	1.06683	8.41253	9.42358	4.88588	17.05097
2007	13.66993	1.12116	9.18671	10.82914	5.81729	18.89519
2008	9.76115	2.50676	7.52140	8.48189	5.73354	21.25026
D. IBNR						
1999	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2000	0.0070	0.0014	0.0065	0.0027	0.0038	0.0125
2001	0.0149	0.0041	0.0168	0.0076	0.0160	0.0366
2002	0.0247	0.0054	0.0333	0.0140	0.0273	0.0594
2003	0.0380	0.0073	0.0578	0.0252	0.0562	0.0840
2004	0.0516	0.0091	0.0787	0.0682	0.0943	0.1441
2005	0.0699	0.0112	0.1068	0.1159	0.1406	0.2250
2006	0.0843	0.0141	0.1392	0.1560	0.1617	0.2822
2007	0.1075	0.0176	0.1806	0.2129	0.2287	0.3715
2008	0.0891	0.0457	0.1716	0.1935	0.2616	0.4847
				· · · · ·		

Source: IBNR Factor - Exhibit VIII-C-6 Adjustment Factor - Judgement

Payrolls: Exhibit X-A-3
IBNR = A times B times C

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### Occupational Disease Federal Benefits

#### TABLE OF MONTHLY BLACK LUNG BENEFIT RATES

		IAU	LL OI MONIII	LIBLACI	K LUNG BLINLIII I	(AIL)	Yearly
					Claimant	Dependent	Percentage
	Time Per	iod			Benefit	<u>Benefit</u>	<u>Increase</u>
10/1/1981	to	9/30/198	32		293.20	146.60	
10/1/1982	to	12/31/198	33		304.90	152.50	4.0%
1/1/1984	to	12/31/198			317.10	158.60	4.0%
1/1/1985	to	12/31/198			328.20	164.10	3.5%
1/1/1986	to	12/31/198			328.20	164.10	0.0%
1/1/1987	to	12/31/198			338.00	169.00	3.0%
1/1/1988	to	12/31/198			344.80	172.40	2.0%
1/1/1989	to	12/31/198			358.90	179.50	4.1%
1/1/1990	to	12/31/199			371.80	185.90	3.6%
1/1/1991	to	12/31/199			387.10	193.60	4.1%
1/1/1992	to	12/31/199			403.30	201.70	4.2%
1/1/1993	to	12/31/199			418.20	209.10	3.7%
1/1/1994	to	12/31/199			427.40	213.70	2.2%
1/1/1995	to	12/31/199			427.40	213.70	0.0%
1/1/1996	to	12/31/199			435.10	217.60	1.8%
1/1/1997	to	12/31/199			445.10	222.60	2.3%
1/1/1998	to	12/31/199			455.10	227.60	2.2%
1/1/1999	to	12/31/199			469.50	234.80	3.2%
1/1/2000	to	12/31/200			487.40	243.60	3.8%
1/1/2001	to	12/31/200			500.50	250.30	2.7%
1/1/2002	to	12/31/200			518.50	259.30	3.6%
1/1/2003	to	12/31/200			534.60	267.30	3.1%
1/1/2004	to	12/31/200			549.00	274.50	2.7%
1/1/2005	to	12/31/200			562.80	281.30	2.5%
1/1/2006	to	12/31/200			574.60	287.20	2.1%
1/1/2007	to	12/31/200			584.40	292.20	1.7%
1/1/2008	to	12/31/200			599.00	299.00	2.5%
1/1/2009	to	12/31/200			616.30	308.20	2.9%
1/1/2010	to	12/31/20			625.60	312.80	1.5%
1/1/2011	to	12/31/20			625.60	312.80	0.0%
1/1/2012	to	12/31/20			625.60	312.80	0.0%
1/1/2013	to	12/31/20			625.60	312.80	0.0%
1/1/2014	to	12/31/20			631.80	315.90	1.0%
1/1/2015	to	12/31/20			638.10	319.10	1.0%
1/1/2016	to	12/31/20			644.50	322.30	1.0%
1/1/2017	to	12/31/20			651.00	325.40	1.0%
1/1/2018	to	12/31/20			660.10	330.00	1.4%
1/1/2019	to	12/31/20	19		669.30	334.70	1.4%
		All Years	Average				2.3%
		Last 10 Yrs	Average				0.8%
		Last 5 Yrs	Average				1.2%
		Last 3 Yrs	Average				1.3%
Selected Be			2019	to	2020		1.00%
Selected Be		-	2020	to	2021		1.50%
Selected Be	enefit Cho	inge from	2021	to	2022		2.50%
Selected A	verage Ar	nnual Benefit	Change (Last	Year's Se	lection: 2.5%)		2.50%
				Pro	ojected Benefit-		
				. 10	<u>Claimant</u>	Dependant	Weight
1/1/2020	to	12/31/202	20		676.00 a	338.00	28.125%
1/1/2021	to	12/31/202			686.10 a	343.10	68.750%
1/1/2022	to	12/31/202			703.30 a	351.70	3.125%
Average M Period Begi	-	nefit During th	e Policy		683.80 b	341.90	
_	_						
		efit During the	Policy				
Period Begi					157.80 c	78.90	
Annual (We					8,205.60	4,102.80	
Annual Min	er and Sp	ouse				12,308.40	

- a Previous year's benefit times selected benefit change
- b Weighted average of projected benefit levels from 01-01-20 to 12-31-22
- c Monthly Benefit times 12 months divided by 52 weeks

Sources: US Department of Labor

Employment Standards Administration
Office of Workers' Compensation Programs
Division of Coal Mine Workers' Compensation

### Anthracite Underground (0160)

		Co	ounts				
Year	(1) Reported	(2) Awarded	(3) Pending	(4) Denied	(5) Pending Awarded (3) * 30%	(6) Denied Reopened	(7) Denied Awarded
2009	# 1	# 0	# 0	# 1	# 0.00	# 0.05	# 0.05
2010	-	-	-	-	-	-	-
2011	2	-	-	2	-	0.10	0.10
2012 2013	2	-	-	2	-	0.10	0.10
2013	_	-	_	_	-	0.10	0.10
2015	-	-	_	-	-	_	-
2016	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-
2018				<u> </u>			<del></del>
Total	5	-	-	5	-	0.25	0.25
	(8) Ultimate	(9) Ultimate	(10)	(11) IBNR	(12) Total	(13)	(14)
	Awarded	Denied	IBNR	Awarded	Awarded		Frequency
Year	(2)+(5)+(7)	<u>(1)-(8)</u>		(10)xAward Ratio	<u>(8)+(11)</u>	<u>Payroll</u>	(12)/(13) x 1000000
2009	# 0.05	# 0.95	# 0.1340	# 0.0193	# 0.0693	\$ 1,335,866	0.0519
2010	-	-	0.2025	0.0292	0.0292	1,299,588	0.0225
2011	0.10	1.90	0.2674	0.0386	0.1386	1,257,944	0.1102
2012	-	-	0.2772	0.0400	0.0400	1,029,260	0.0389
2013	0.10	1.90	0.1262	0.0182	0.1182	381,876	0.3096
2014	-	-	0.1014	0.0146	0.0146	258,809	0.0565
2015	-	-	0.1207	0.0174	0.0174	254,336	0.0685
2016	-	-	0.0918	0.0132	0.0132	163,760	0.0809
2017	-	-	0.1792 0.1671	0.0259	0.0259 0.0241	252,383	0.1025
<u>2018</u> Total	0.25	4.75	1.6676	<u>0.0241</u> 0.2406	0.4906	183,346 \$ 6,417,168	<u>0.1315</u> 0.0765
TOTAL	0.20	4.70	1.0070	0.2400	0.4700	ψ 0,417,100	0.0700
	(15)	(16)	(17)	(18)			
	Statewide	A =10 = 1 = 1	Estimated	Frequency			
Voor	Average	Adjustment	Miner	Claims per 100			
Year 2009	Weekly Wage	<u>Factor</u> 1.0720	<u>Years</u> 28.7	Miner Years			
	836 845			0.2416			
2010 2011	858	1.0720 1.0720	27.6 26.3	0.1059 0.5269			
2011	888	1.0720	20.8	0.1923			
2012	917	1.0720	7.5	1.5762			
2013	932	1.0720	5.0	0.2925			
2014	951	1.0720	4.8	0.3629			
2016	978	1.0720	3.0	0.4417			
2017	995	1.0720	4.6	0.5622			
2018	1,025	1.0720	3.2	0.7537			
Total			131.5	0.3731			

Sources:

Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.05)xCol.(4) Col.(7): (1.00)xCol.(6)

Col.(10): Exh. VIII-C Col.(13): Exhibit X Col.(15): Exhibit XII-D Col.(16): Exhibit X-G

Col.(17): (13) /( (15) x (16) x 52 )

Col.(18): (12) / (17) x 100

IBNR Award Ratio: 0.1443

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Run Date: September 23, 2019 - 03:08:44 PM

Effective Date - April 01, 2020 12,904,111.140254

# Bituminous Underground (0158)

		Co	ounts					
	(1)	(2)	(3)	(4)		(5)	(6)	(7)
						Pending	Denied	Denied
	Reported	Awarded	Pending	Denied		Awarded	Reopened	Awarded
Year						(3) * 30%		
2009	# 5	# O	# 0	# 5		# 0.00	# 0.25	# 0.25
2010	5	-	1	4		0.30	0.20	0.20
2011	6	1	-	5		-	0.25	0.25
2012	5	-	-	5		-	0.25	0.25
2013	4	1	-	3		-	0.15	0.15
2014	15	-	1	14		0.30	0.70	0.70
2015	18	-	3	15		0.90	0.75	0.75
2016	7	-	-	7		-	0.35	0.35
2017	4	-	1	3		0.30	0.15	0.15
2018	3	<u>=</u>	1	3 2 63	_	0.30	0.10	0.10
Total	72	2	7	63		2.10	3.15	3.15
	(8)	(9)	(10)	(11)		(12)	(13)	(14)
	Ultimate	Ultimate		IBNR		Total		
	Awarded	Denied	IBNR	Awarded		Awarded		Frequency
Year	(2)+(5)+(7)	<u>(1)-(8)</u>		(10)xAward Ratio		<u>(8)+(11)</u>	<u>Payroll</u>	(12)/(13) x 1000000
2009	# 0.25	# 4.75	# 6.5501	# 0.9452		# 1.1952	\$ 101,348,140	0.0118
2010	0.50	4.50	9.2553	1.3355		1.8355	125,393,576	0.0146
2011	1.25	4.75	12.3347	1.7799		3.0299	148,485,709	0.0204
2012	0.25	4.75	14.9287	2.1542		2.4042	153,618,908	0.0157
2013	1.15	2.85	16.2767	2.3487		3.4987	145,146,253	0.0241
2014	1.00	14.00	23.5747	3.4018		4.4018	183,431,952	0.0240
2015	1.65	16.35	20.4909	2.9568		4.6068	140,570,275	0.0328
2016	0.35	6.65	19.5351	2.8189		3.1689	118,545,477	0.0267
2017	0.45	3.55	33.3609	4.8140		5.2640	172,800,836	0.0305
2018	0.40	2.60	40.0260	5.7757	-	6.1757	179,746,573	0.0344
Total	7.25	64.75	196.3331	28.3309		35.5809	\$ 1,469,087,699	0.0242
	(15)	(16)	(17)	(18)				
	Statewide	(10)	Estimated	Frequency				
	Average	Adjustment	Miner	Claims per 100				
Year	Weekly Wage		Years	Miner Years				
2009	836	1.5490	1,505.1	0.0794				
2010	845	1.5490	1,842.3	0.0996				
2011	858	1.5490	2,148.5	0.1410				
2012	888	1.5490	2,147.7	0.1119				
2013	917	1.5490	1,965.1	0.1780				
2014	932	1.5490	2,443.5	0.1801				
2015	951	1.5490	1,835.1	0.2510				
2016	978	1.5490	1,504.8	0.2106				
2017	995	1.5490	2,156.1	0.2441				
2018	1,025	1.5490	2,177.1	0.2837				
Total			19,725.3	0.1804				
			,, 20.0	0.1001				

Sources:

Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.05)xCol.(4) Col.(7): (1.00)xCol.(6) Col.(10): Exh. VIII-C

Col.(13): Exhibit X

Col.(15): Exhibit XII-D Col.(16): Exhibit X-G

Col.(17): (13) /( (15) x (16) x 52 )

Col.(18): (12) / (17) x 100

IBNR Award Ratio: 0.1443

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Run Date: September 23, 2019 - 03:08:44 PM

Effective Date - April 01, 2020 2,938,285,294.743220

# Anthracite Surface (0153)

		Co	ounts				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
					Pending	Denied	Denied
	Reported	Awarded	Pending	Denied	Awarded	Reopened	Awarded
Year					(3) * 30%		
2009	# 2	# 1	# 0	# 1	# 0.00	# 0.05	# 0.05
2010	2	_	_	2	_	0.10	0.10
2011	1	_	_	1	_	0.05	0.05
2012	1	_	_	1	_	0.05	0.05
2013	3	1	2	-	0.60	-	-
2014	1	_	_	1	_	0.05	0.05
2015	1	_	_	1	_	0.05	0.05
2016	2	_	1	1	0.30	0.05	0.05
2017	1	_	_	1	_	0.05	0.05
2018	_	_	_	-	_	-	-
Total	14	2	3	9	0.90	0.45	0.45
	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Ultimate	Ultimate		IBNR	Total		
	Awarded	Denied	IBNR	Awarded	Awarded		Frequency
Year	(2)+(5)+(7)	<u>(1)-(8)</u>		(10)xAward Ratio	<u>(8)+(11)</u>	Payroll	(12)/(13) x 1000000
2009	# 1.05	# 0.95	# 0.6580	# 0.0949	# 1.1449	\$ 15,893,528	0.0720
2010	0.10	1.90	0.6573	0.0948	0.1948	13,319,185	0.0146
2011	0.05	0.95	1.1293	0.1630	0.2130	19,507,428	0.0109
2012	0.05	0.95	1.6778	0.2421	0.2921	24,734,711	0.0118
2013	1.60	1.40	1.6448	0.2373	1.8373	20,720,014	0.0887
2014	0.05	0.95	1.7410	0.2512	0.3012	18,911,339	0.0159
2015	0.05	0.95	2.3431	0.3381	0.3881	22,234,350	0.0175
2016	0.35	1.65	2.3282	0.3360	0.6860	19,257,107	0.0356
2017	0.05	0.95	2.7256	0.3933	0.4433	19,094,634	0.0232
2018	<u></u>		3.1158	0.4496	0.4496	18,332,737	0.0245
Total	3.35	10.65	18.0207	2.6004	5.9504	\$ 192,005,033	0.0310
	(15)	(16)	(17)	(18)			
	Statewide	()	Estimated	Frequency			
	Average	Adjustment	Miner	Claims per 100			
Year	Weekly Wage		Years	Miner Years			
2009	836	1.0720	341.0	0.3358			
2010	845	1.0720	282.8	0.0689			
2011	858	1.0720	407.9	0.0522			
2012	888	1.0720	499.7	0.0585			
2013	917	1.0720	405.3	0.4533			
2014	932	1.0720	364.0	0.0828			
2015	951	1.0720	419.4	0.0925			
2016	978	1.0720	353.2	0.1942			
2017	995	1.0720	344.3	0.1288			
2018	1,025	1.0720	320.9	0.1401			
Total	.,520	25	3,738.5	0.1592			
TOTAL			0,700.0	0.1372			

Sources:

Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.05)xCol.(4) Col.(7): (1.00)xCol.(6) Col.(10): Exh. VIII-C

Col.(13): Exhibit X

Col.(15): Exhibit XII-D Col.(16): Exhibit X-G

Col.(17): (13) /( (15) x (16) x 52 )

Col.(18): (12) / (17) x 100

IBNR Award Ratio: 0.1443

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Run Date: September 23, 2019 - 03:08:44 PM

Effective Date - April 01, 2020

# Bituminous Surface (0156)

Company   Comp	ed
Year         Reported         Awarded         Pending         Denied         Awarded Awarded Reopened         Denied Awarded Awarded Awarded Reopened         Denied Awarded Awarded Awarded Reopened Awarded Reopened Awarded Reopened Awarded Reopened Awarded Reopened Awarded Reopened Reo	# 0.05 0.05 0.15 0.30 0.15 0.05
Year	# 0.05 0.05 0.15 0.30 0.15 0.05
2009	0.05 0.15 0.30 0.15 0.05
2010	0.05 0.15 0.30 0.15 0.05
2011	0.15 0.30 0.15 0.05
2011	0.30 0.15 0.05
2013	0.15 0.05
2014 3 1 1 1 1 0.30 0.05 2015 7 1 - 66 - 0.30 2016 1 0.30 2017 1 - 1 - 1 0.05 2018 1 0.05 2018 1 0.05 2018 1 0.05 2018 - 1 0 0.05 2018 - 1 0 0.05 2018 - 1 0 0.05 2018 - 1 0 0.05 2018 - 1 0 0.05 2018 - 1 0 0.05 2018 - 1 0 0.05 2018 - 1 0 0.05 2018 - 1 0 0.05 2018 - 1 0 0.05 2018 - 1 0 0.05 2018 - 1 0 0.05 2018 - 1 0 0.05 2019 - 1 0.05 2010 0.05	0.05
2014 3 1 1 1 1 0.30 0.05 2015 7 1 - 66 - 0.30 2016 1 0.30 2017 1 - 1 - 1 1 - 0.05 2018 1 1 - 0.05 2018 1 1 - 0.05 2018	
2015         7         1         -         6         -         0.30           2016         -	0.30
2016	
2018 Total         -	-
2018 Total         -	0.05
Total         31         4         5         22         1.50         1.10           (8) Ultimate Awarded         (9) Ultimate Denied Awarded         IBNR IBNR ID Denied IBNR Awarded         Total Awarded Awarded Awarded         Freque Payroll (12)/(13) x           Year (2)+(5)+(7) (1)-(8) 2009 # 0.05 # 0.95 # 2.0246 # 0.2921 # 0.3421 \$ 63,306,695         # 0.3421 \$ 63,306,695         \$ 63,306,695           2010 0.35 1.65 2.8024 0.4044 0.7544 74,255,177         0.544 74,255,177         0.544 74,255,177           2011 0.45 3.55 3.8663 0.5579 1.0079 87,730,506         0.5688 3.1688 77,890,500           2012 2.60 6.40 3.9420 0.5688 3.1688 77,890,500         0.9675 62,718,061           2013 0.45 3.55 3.5862 0.5175 0.9675 62,718,061         0.9675 62,718,061           2014 1.35 1.65 3.5331 0.5098 1.8598 55,368,615         0.9675 62,718,061           2015 1.30 5.70 2.9606 0.4272 1.7272 42,000,092         0.3357 0.3357 0.3357 0.3357 0.3357           2016 2.3267 0.3357 0.5344 0.421 0.4921 34,248,962           2018 3.7035 0.5344 0.5344 36,110,426	_
(8)         (9)         (10)         (11)         (12)         (13)         (14)           Ultimate         Ultimate         IBNR         Awarded         Awarded         Awarded         Freque           Year         (2)+(5)+(7)         (1)-(8)	1.10
Ultimate Awarded         Denied Denied         IBNR Awarded         Total Awarded         Freque Freque (1)+(5)+(7)         (1)-(8)         (1)-(8)         (10)xAward Ratio         (8)+(11)         Payroll Payroll (12)/(13) x         (12)/(13) x           2009         # 0.05         # 0.95         # 2.0246         # 0.2921         # 0.3421         \$ 63,306,695           2010         0.35         1.65         2.8024         0.4044         0.7544         74,255,177           2011         0.45         3.55         3.8663         0.5579         1.0079         87,730,506           2012         2.60         6.40         3.9420         0.5688         3.1688         77,890,500           2013         0.45         3.55         3.5862         0.5175         0.9675         62,718,061           2014         1.35         1.65         3.5331         0.5098         1.8598         55,368,615           2015         1.30         5.70         2.9606         0.4272         1.7272         42,000,092           2016         -         -         2.3267         0.3357         0.3357         30,131,218           2017         0.05         0.95         3.0639         0.4421         0.4921         34,248,962	
Awarded         Denied         IBNR         Awarded         Awarded         Frequency           Year         (2)+(5)+(7)         (1)-(8)         (10)xAward Ratio         (8)+(11)         Payroll         (12)/(13) x           2009         # 0.05         # 0.95         # 2.0246         # 0.2921         # 0.3421         \$ 63,306,695           2010         0.35         1.65         2.8024         0.4044         0.7544         74,255,177           2011         0.45         3.55         3.8663         0.5579         1.0079         87,730,506           2012         2.60         6.40         3.9420         0.5688         3.1688         77,890,500           2013         0.45         3.55         3.5862         0.5175         0.9675         62,718,061           2014         1.35         1.65         3.5331         0.5098         1.8598         55,368,615           2015         1.30         5.70         2.9606         0.4272         1.7272         42,000,092           2016         -         -         2.3267         0.3357         0.3357         30,131,218           2017         0.05         0.95         3.0639         0.4421         0.4921         34,248,962 <td>)</td>	)
Year         (2)+(5)+(7)         (1)-(8)         (10)xAward Ratio         (8)+(11)         Payroll         (12)/(13) x           2009         # 0.05         # 0.95         # 2.0246         # 0.2921         # 0.3421         \$ 63,306,695           2010         0.35         1.65         2.8024         0.4044         0.7544         74,255,177           2011         0.45         3.55         3.8663         0.5579         1.0079         87,730,506           2012         2.60         6.40         3.9420         0.5688         3.1688         77,890,500           2013         0.45         3.55         3.5862         0.5175         0.9675         62,718,061           2014         1.35         1.65         3.5331         0.5098         1.8598         55,368,615           2015         1.30         5.70         2.9606         0.4272         1.7272         42,000,092           2016         -         -         2.3267         0.3357         0.3357         30,131,218           2017         0.05         0.95         3.0639         0.4421         0.4921         34,248,962           2018         -         -         3.7035         0.5344         0.5344         36,110,426<	
2009       # 0.05       # 0.95       # 2.0246       # 0.2921       # 0.3421       \$ 63,306,695         2010       0.35       1.65       2.8024       0.4044       0.7544       74,255,177         2011       0.45       3.55       3.8663       0.5579       1.0079       87,730,506         2012       2.60       6.40       3.9420       0.5688       3.1688       77,890,500         2013       0.45       3.55       3.5862       0.5175       0.9675       62,718,061         2014       1.35       1.65       3.5331       0.5098       1.8598       55,368,615         2015       1.30       5.70       2.9606       0.4272       1.7272       42,000,092         2016       -       -       2.3267       0.3357       0.3357       30,131,218         2017       0.05       0.95       3.0639       0.4421       0.4921       34,248,962         2018       -       -       3.7035       0.5344       0.5344       36,110,426	ncy
2010       0.35       1.65       2.8024       0.4044       0.7544       74,255,177         2011       0.45       3.55       3.8663       0.5579       1.0079       87,730,506         2012       2.60       6.40       3.9420       0.5688       3.1688       77,890,500         2013       0.45       3.55       3.5862       0.5175       0.9675       62,718,061         2014       1.35       1.65       3.5331       0.5098       1.8598       55,368,615         2015       1.30       5.70       2.9606       0.4272       1.7272       42,000,092         2016       -       -       2.3267       0.3357       0.3357       30,131,218         2017       0.05       0.95       3.0639       0.4421       0.4921       34,248,962         2018       -       -       3.7035       0.5344       0.5344       36,110,426	1000000
2011       0.45       3.55       3.8663       0.5579       1.0079       87,730,506         2012       2.60       6.40       3.9420       0.5688       3.1688       77,890,500         2013       0.45       3.55       3.5862       0.5175       0.9675       62,718,061         2014       1.35       1.65       3.5331       0.5098       1.8598       55,368,615         2015       1.30       5.70       2.9606       0.4272       1.7272       42,000,092         2016       -       -       2.3267       0.3357       0.3357       30,131,218         2017       0.05       0.95       3.0639       0.4421       0.4921       34,248,962         2018       -       -       3.7035       0.5344       0.5344       36,110,426	0.0054
2012       2.60       6.40       3.9420       0.5688       3.1688       77,890,500         2013       0.45       3.55       3.5862       0.5175       0.9675       62,718,061         2014       1.35       1.65       3.5331       0.5098       1.8598       55,368,615         2015       1.30       5.70       2.9606       0.4272       1.7272       42,000,092         2016       -       -       2.3267       0.3357       0.3357       30,131,218         2017       0.05       0.95       3.0639       0.4421       0.4921       34,248,962         2018       -       -       3.7035       0.5344       0.5344       36,110,426	0.0102
2013     0.45     3.55     3.5862     0.5175     0.9675     62,718,061       2014     1.35     1.65     3.5331     0.5098     1.8598     55,368,615       2015     1.30     5.70     2.9606     0.4272     1.7272     42,000,092       2016     -     -     2.3267     0.3357     0.3357     30,131,218       2017     0.05     0.95     3.0639     0.4421     0.4921     34,248,962       2018     -     -     3.7035     0.5344     0.5344     36,110,426	0.0115
2014     1.35     1.65     3.5331     0.5098     1.8598     55,368,615       2015     1.30     5.70     2.9606     0.4272     1.7272     42,000,092       2016     -     -     2.3267     0.3357     0.3357     30,131,218       2017     0.05     0.95     3.0639     0.4421     0.4921     34,248,962       2018     -     -     3.7035     0.5344     0.5344     36,110,426	0.0407
2015     1.30     5.70     2.9606     0.4272     1.7272     42,000,092       2016     -     -     2.3267     0.3357     0.3357     30,131,218       2017     0.05     0.95     3.0639     0.4421     0.4921     34,248,962       2018     -     -     3.7035     0.5344     0.5344     36,110,426	0.0154
2016       -       -       2.3267       0.3357       0.3357       30,131,218         2017       0.05       0.95       3.0639       0.4421       0.4921       34,248,962         2018       -       -       3.7035       0.5344       0.5344       36,110,426	0.0336
2017       0.05       0.95       3.0639       0.4421       0.4921       34,248,962         2018       -       -       3.7035       0.5344       0.5344       36,110,426	0.0411
<u>2018</u> <u>3.7035</u>	0.0111
	0.0144
Total 4.40 24.40 31.8093 4.5901 11.1901 \$.543.740.252	0.0148
101d1 0.00 24.40 31.00/3 4.3/01 11.1/01 \$303,700,232	0.0198
(15) (16) (17) (18)	
Statewide Estimated Frequency	
Average Adjustment Miner Claims per 100	
Year Weekly Wage Factor Years Miner Years	
2009 836 1.0720 1,358.5 0.0252	
2010 845 1.0720 1,576.4 0.0479	
2011 858 1.0720 1,834.3 0.0549	
2012 888 1.0720 1,573.5 0.2014	
2013 917 1.0720 1,226.9 0.0789	
2014 932 1.0720 1,065.7 0.1745	
2015 951 1.0720 792.3 0.2180	
2016 978 1.0720 552.7 0.0607	
2017 995 1.0720 617.5 0.0797	
<u>2018</u> 1,025 1.0720 632.0 0.0846	
Total 11,229.8 0.0996	
11,227.0 0.0770	

Sources:

Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.05)xCol.(4) Col.(7): (1.00)xCol.(6) Col.(10): Exh. VIII-C

Col.(13): Exhibit X

Col.(15): Exhibit XII-D Col.(16): Exhibit X-G

Col.(17): (13) /( (15) x (16) x 52 )

Col.(18): (12) / (17) x 100

IBNR Award Ratio: 0.1443

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Effective Date - April 01, 2020 1,127,612,723.386580

## Four Standard Classes

		С	ounts				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
					Pending	Denied	Denied
	Reported	Awarded	Pending	Denied	Awarded	Reopened	Awarded
Year			_		(3) * 30%	·	
2009	# 9	# 1	# O	# 8	# 0.00	# 0.40	# 0.40
2010	9	_	2	7	0.60	0.35	0.35
2011	13	1	1	11	0.30	0.55	0.55
2012	15	2	1	12	0.30	0.60	0.60
2013	13	2	3	8	0.90	0.40	0.40
2014	19	1	2	16	0.60	0.80	0.80
2015	26	1	3	22	0.90	1.10	1.10
2016	9	_	1	8	0.30	0.40	0.40
2017	6	_	1	5	0.30	0.25	0.25
2018	3	_	i	2	0.30	0.10	0.10
Total	122	8	15	99	4.50	4.95	4.95
		J	.0	, ,	1.00	1.70	1 3
	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Ultimate	Ultimate	, ,	IBNR	Total	, ,	, ,
	Awarded	Denied	IBNR	Awarded	Awarded		Frequency
Year	(2)+(5)+(7)	<u>(1)-(8)</u>		(10)xAward Ratio	<u>(8)+(11)</u>	Payroll	(12)/(13) x 1000000
2009	# 1.40	# 7.60	# 9.3667	# 1.3516	# 2.7516	\$ 181,884,229	0.0151
2010	0.95	8.05	12.9175	1.8640	2.8140	214,267,526	0.0131
2011	1.85	11.15	17.5977	2.5393	4.3893	256,981,587	0.0171
2012	2.90	12.10	20.8257	3.0052	5.9052	257,273,379	0.0230
2013	3.30	9.70	21.6339	3.1218	6.4218	228,966,204	0.0280
2014	2.40	16.60	28.9501	4.1775	6.5775	257,970,715	0.0255
2015	3.00	23.00	25.9153	3.7396	6.7396	205,059,053	0.0329
2016	0.70	8.30	24.2818	3.5039	4.2039	168,097,562	0.0250
2017	0.55	5.45	39.3296	5.6753	6.2253	226,396,815	0.0275
2018	0.40	2.60	47.0124	6.7839	7.1839	234,373,082	0.0307
Total	17.45	104.55	247.8307	35.7620	53.2120	\$ 2,231,270,152	0.0238
						·	
	(15)	(16)	(17)	(18)			
	Statewide		Estimated	Frequency			
	Average	Adjustment	Miner	Claims per 100			
Year	Weekly Wage	<u>Factor</u>	<u>Years</u>	Miner Years			
2009	836		3,233.3	0.0851			
2010	845		3,729.1	0.0755			
2011	858		4,417.0	0.0994			
2012	888		4,241.7	0.1392			
2013	917		3,604.8	0.1781			
2014	932		3,878.2	0.1696			
2015	951		3,051.6	0.2209			
2016	978		2,413.7	0.1742			
2017	995		3,122.5	0.1994			
2018	1,025		3,133.2	0.2293			
Total			34,825.1	0.1528			
			0.,020.1	0.1020			

Sources:

Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.05)xCol.(4) Col.(7): (1.00)xCol.(6) Col.(10): Exh. VIII-C

Col.(13): Sum of Pages 1 to 4

Col.(15): Exhibit XII-D Col.(16): Exhibit X-G

Col.(17): (13) /( (15) x (16) x 52 )

Col.(18): (12) / (17) x 100

IBNR Award Ratio: 0.1443

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# Coke (0154)

		Co	ounts				
Vasur	(1) Reported	(2) Awarded	(3) Pending	(4) Denied	(5) Pending Awarded	(6) Denied Reopened	(7) Denied Awarded
Year 2009	# O	# 0	# 0	# 0	<u>(3) * 30%</u> # 0.00	# 0.00	# 0.00
2010	π 0	π O -	π 0	π 0	π 0.00 -	# 0.00	π 0.00 -
2011	-	_	_	-	-	-	-
2012	-	_	-	-	-	-	-
2013	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-
2018	<del></del>				<del></del>	<del>_</del>	
Total	-	-	-	-	-	-	-
	(8) Ultimate	(9) Ultimate	(10)	(11) IBNR	(12) Total	(13)	(14)
	Awarded	Denied	IBNR	Awarded	Awarded		Frequency
Year	(2)+(5)+(7)	<u>(1)-(8)</u>		(10)xAward Ratio	<u>(8)+(11)</u>	<u>Payroll</u>	(12)/(13) x 1000000
2009	# 0.00	# 0.00	# 0.0540	# 0.0078	# 0.0078	\$ 5,173,552	0.0015
2010	-	-	0.0640	0.0092	0.0092	5,435,658	0.0017
2011	-	-	0.0473	0.0068	0.0068	3,599,086	0.0019
2012	-	-	0.0838	0.0121	0.0121	5,738,105	0.0021
2013	-	-	0.0780	0.0113	0.0113	4,791,910	0.0023
2014	-	-	0.0816	0.0118	0.0118	4,464,398	0.0026
2015	-	-	0.0882	0.0127	0.0127	4,340,376	0.0029
2016 2017	-	_	0.0998 0.1129	0.0144 0.0163	0.0144 0.0163	4,435,066 4,566,113	0.0032 0.0036
2017	-	-	0.1127	0.0174	0.0163	4,456,795	0.0039
Total			0.8303	0.1198	0.1198	\$ 47,001,059	0.0037
TOTAL			0.0000	0.1170	0.1170	ψ 47,001,007	0.0025
	(15)	(16)	(17)	(18)			
	Statewide		Estimated	Frequency			
.,	Average	Adjustment	Miner	Claims per 100			
Year	Weekly Wage	<u>Factor</u>	<u>Years</u>	Miner Years			
2009	836	1.0720	111.0	0.0070			
2010	845	1.0720	115.4	0.0080 0.0091			
2011 2012	858 888	1.0720 1.0720	75.3 115.9	0.0091			
2012	917	1.0720	93.7	0.0104			
2013	932	1.0720	85.9	0.0120			
2015	951	1.0720	81.9	0.0155			
2016	978	1.0720	81.4	0.0177			
2017	995	1.0720	82.3	0.0198			
2018	1,025	1.0720	78.0	0.0223			
Total			920.8	0.0130			
-							

Sources:

Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.05)xCol.(4) Col.(7): (1.00)xCol.(6)

Col.(10): Exh. VIII-C Col.(13): Exhibit X

Col.(15): Exhibit XII-D Col.(16): Exhibit X-G

Col.(17): (13) /( (15) x (16) x 52)

Col.(18): (12) / (17) x 100

IBNR Award Ratio: 0.1443

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Effective Date - April 01, 2020 94,073,431.781157

# Auger (0157)

		Co	ounts				
Va	(1) Reported	(2) Awarded	(3) Pending	(4) Denied	(5) Pending Awarded	(6) Denied Reopened	(7) Denied Awarded
Year 2009	# O	# 0	# O	# O	<u>(3) * 30%</u> # 0.00	# 0.00	# 0.00
2009	# U	# 0	# U	# 0	0.30	# 0.00	# 0.00
2010	-	_	-	_	-	_	
2012	1	_	_	1	_	0.05	0.05
2013	· -	_	_	· -	-	-	-
2014	_	_	_	_	-	_	_
2015	-	_	_	_	_	-	_
2016	-	_	-	_	<del>-</del>	-	-
2017	-	_	-	_	<del>-</del>	-	-
2018	-	_	-	-	-	-	-
Total	2	-	1	1	0.30	0.05	0.05
	(8) Ultimate	(9) Ultimate	(10)	(11) IBNR	(12) Total	(13)	(14)
	Awarded	Denied	IBNR	Awarded	Awarded		Frequency
Year	(2)+(5)+(7)	<u>(1)-(8)</u>	IDIAN	(10)xAward Ratio	(8)+(11)	Payroll	(12)/(13) x 1000000
2009	# 0.00	# 0.00	# 0.0198	# 0.0029	# 0.0029	\$ 946,963	0.0030
2010	0.30	0.70	0.0195	0.0028	0.3028	827,496	0.3659
2011	-	-	0.0309	0.0045	0.0045	1,176,255	0.0038
2012	0.05	0.95	0.0236	0.0034	0.0534	808,208	0.0661
2013	-	-	0.0341	0.0049	0.0049	1,046,947	0.0047
2014	-	_	0.0315	0.0045	0.0045	861,590	0.0053
2015	-	_	0.0266	0.0038	0.0038	654,766	0.0059
2016	-	-	0.0177	0.0026	0.0026	392,776	0.0065
2017	-	_	0.0280	0.0040	0.0040	566,324	0.0071
2018			0.0303	0.0044	0.0044	560,126	0.0078
Total	0.35	1.65	0.2620	0.0378	0.3878	\$ 7,841,451	0.0495
	(15)	(16)	(17)	(18)			
	Statewide		Estimated	Frequency			
	Average	Adjustment	Miner	Claims per 100			
Year	Weekly Wage		<u>Years</u>	Miner Years			
2009	836	1.0720	20.3	0.0141			
2010	845	1.0720	17.6	1.7205			
2011	858	1.0720	24.6	0.0181			
2012	888	1.0720	16.3	0.3276			
2013	917	1.0720	20.5	0.0240			
2014	932	1.0720	16.6	0.0274			
2015	951	1.0720	12.4	0.0310			
2016	978	1.0720	7.2	0.0355			
2017	995	1.0720	10.2	0.0396			
2018	1,025	1.0720	9.8	0.0446			
Total			155.5	0.2494			

Sources:

Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.05)xCol.(4) Col.(7): (1.00)xCol.(6)

Col.(10): Exh. VIII-C Col.(13): Exhibit X Col.(15): Exhibit XII-D Col.(16): Exhibit X-G

Col.(17): (13) /( (15) x (16) x 52)

Col.(18): (12) / (17) x 100

IBNR Award Ratio: 0.1443

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Effective Date - April 01, 2020 15,752,700.096898

# Anthracite Co-Gen (0181)

		Co	ounts				
	(1) Reported	(2) Awarded	(3) Pending	(4) Denied	(5) Pending Awarded	(6) Denied Reopened	(7) Denied Awarded
Year					(3) * 30%		
2009	# 0	# O	# O	<del></del>	# 0.00	# 0.00	# 0.00
2010	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-
2012	1	-	-	1	-	0.05	0.05
2013	1	=	-	1	-	0.05	0.05
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	_	-	-	-	-	-
2017 2018	-	-	-	-	-	-	-
<u>zoro</u> Total		<del>_</del>		2		0.10	0.10
TOTAL	2	-	-	Z	-	0.10	0.10
	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Ultimate	Ultimate	( - /	ibnr	Total	( - /	,
	Awarded	Denied	IBNR	Awarded	Awarded		Frequency
Year	(2)+(5)+(7)	<u>(1)-(8)</u>		(10)xAward Ratio	<u>(8)+(11)</u>	<u>Payroll</u>	(12)/(13) x 1000000
2009	# 0.00	# 0.00	# 0.1966	# 0.0284	# 0.0284	\$ 7,534,735	0.0038
2010	-	-	0.2342	0.0338	0.0338	7,958,048	0.0042
2011	-	-	0.3611	0.0521	0.0521	10,981,642	0.0047
2012	0.05	0.95	0.3398	0.0490	0.0990	9,311,812	0.0106
2013	0.05	0.95	0.3106	0.0448	0.0948	7,630,762	0.0124
2014	-	-	0.3820	0.0551	0.0551	8,360,898	0.0066
2015	-	-	0.4855	0.0701	0.0701	9,554,806	0.0073
2016	-	-	0.4475	0.0646	0.0646	7,953,309	0.0081
2017	-	-	0.4820	0.0696	0.0696 0.0978	7,793,558	0.0089
<u>2018</u> Total	0.10	1.90	<u>0.6780</u> 3.9173	<u>0.0978</u> 0.5653	0.6653	10,018,416 \$ 87,097,986	<u>0.0098</u> 0.0076
TOTAL	0.10	1.70	3.7173	0.3633	0.8633	φ 07,077,700	0.0076
	(15)	(16)	(17)	(18)			
	Statewide	, ,	Estimated	Frequency			
	Average	Adjustment	Miner	Claims per 100			
Year	Weekly Wage		<u>Years</u>	Miner Years			
2009	836	1.0720	161.7	0.0175			
2010	845	1.0720	168.9	0.0200			
2011	858	1.0720	229.6	0.0227			
2012	888	1.0720	188.1	0.0526			
2013	917	1.0720	149.3	0.0635			
2014	932	1.0720	160.9	0.0343			
2015	951	1.0720	180.2	0.0389			
2016	978	1.0720	145.9	0.0443			
2017	995	1.0720	140.5	0.0495			
<u>2018</u>	1,025	1.0720	175.3	0.0558			
Total			1,700.4	0.0391			

Sources:

Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.05)xCol.(4) Col.(7): (1.00)xCol.(6) Col.(10): Exh. VIII-C

Col.(13): Exhibit X

Col.(15): Exhibit XII-D Col.(16): Exhibit X-G

Col.(17): (13) /( (15) x (16) x 52 )

Col.(18): (12) / (17) x 100

IBNR Award Ratio: 0.1443

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Effective Date - April 01, 2020 174,268,865.882396

# Bituminous Co-Gen (0182)

		Co	ounts				
	(1) Reported	(2) Awarded	(3) Pending	(4) Denied	(5) Pending Awarded	(6) Denied Reopened	(7) Denied Awarded
Year		, , , , , , , , ,		2011100	(3) * 30%		7
2009	# 0	# O	# 0	# 0	# 0.00	# 0.00	# 0.00
2010	-	-	-	-	-	-	-
2011	-	-	-	=	-	-	-
2012	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-
2014 2015	-	_	-	-	-	-	-
2015	-	-	-	-	-	-	-
2017	_	_	_	- -	-	_	_
2017 2018	_	_	_	- -		_	_
Total							
	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Ultimate	Ultimate		IBNR	Total		
	Awarded	Denied	IBNR	Awarded	Awarded		Frequency
Year	(2)+(5)+(7)	<u>(1)-(8)</u>	<del></del> -	(10)xAward Ratio	<u>(8)+(11)</u>	Payroll	(12)/(13) x 1000000
2009	# 0.00	# 0.00	# 0.2053	# 0.0296	# 0.0296	\$ 7,866,413	0.0038
2010	-	-	0.2570	0.0371	0.0371	8,732,701	0.0042
2011 2012	-	_	0.2993 0.3302	0.0432 0.0476	0.0432 0.0476	9,102,411	0.0047 0.0053
2012	-	-	0.3302	0.0476	0.0476	9,047,745 10,355,884	0.0053
2013	_	_	0.5355	0.0773	0.0773	11,721,184	0.0066
2015	_	_	0.5970	0.0861	0.0861	11,748,205	0.0073
2016	_	_	0.6373	0.0920	0.0920	11,327,552	0.0081
2017	_	_	0.7071	0.1020	0.1020	11,435,057	0.0089
2018		<u>-</u>	0.8119	0.1172	0.1172	11,996,610	0.0098
Total	-	-	4.8022	0.6930	0.6930	\$ 103,333,762	0.0067
	(15)	(16)	(17)	(18)			
	Statewide		Estimated	Frequency			
	Average	Adjustment	Miner	Claims per 100			
Year	Weekly Wage		<u>Years</u>	Miner Years			
2009	836	1.0720	168.8	0.0176			
2010	845	1.0720	185.4	0.0200			
2011	858	1.0720	190.3	0.0227			
2012 2013	888 917	1.0720 1.0720	182.8 202.6	0.0261 0.0300			
2013	932	1.0720	202.6	0.0343			
2014	951	1.0720	223.6	0.0343			
2016	978	1.0720	207.8	0.0443			
2017	995	1.0720	206.2	0.0495			
2018	1,025	1.0720	210.0	0.0558			
Total	,		2,001.1	0.0346			
			,				

Sources:

Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.05)xCol.(4) Col.(7): (1.00)xCol.(6) Col.(10): Exh. VIII-C

Col.(13): Exhibit X

Col.(15): Exhibit XII-D Col.(16): Exhibit X-G

Col.(17): (13) /( (15) x (16) x 52 )

Col.(18): (12) / (17) x 100

IBNR Award Ratio: 0.1443

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Effective Date - April 01, 2020 206,741,008.885492

# Anthracite Prep-Plant (0183)

		Co	ounts				
	(1) Reported	(2) Awarded	(3) Pending	(4) Denied	(5) Pending Awarded	(6) Denied Reopened	(7) Denied Awarded
Year	керопеа	Awaraea	rending	Derlied	(3) * 30%	кеорепец	Awaraea
2009	# O	# O	# 0	# 0	# 0.00	# 0.00	# 0.00
2010	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-
2013	1	-	1	-	0.30	-	-
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2016	-	_	-	-	-	-	-
2017 2018	-	_	-	-	-	-	-
<u>zoro</u> Total			<u>-</u>		0.30		<u>-</u> _
TOTAL	ı	_		_	0.50	_	_
	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Ultimate	Ultimate		IBNR	Total		, ,
	Awarded	Denied	IBNR	Awarded	Awarded		Frequency
Year	<u>(2)+(5)+(7)</u>	<u>(1)-(8)</u>	<del> </del>	(10)xAward Ratio	<u>(8)+(11)</u>	<u>Payroll</u>	(12)/(13) x 1000000
2009	# 0.00	# 0.00	# 0.3269	# 0.0472	# 0.0472	\$ 6,264,606	0.0075
2010	-	-	0.2871	0.0414	0.0414	4,876,927	0.0085
2011	-	-	0.4027	0.0581	0.0581	6,123,259	0.0095
2012	-		0.5524	0.0797	0.0797	7,569,023	0.0105
2013	0.30	0.70	0.5760	0.0831	0.3831	7,074,886	0.0542
2014 2015	-	-	0.5959 0.6298	0.0860 0.0909	0.0860 0.0909	6,521,541	0.0132
2015	-	-	0.6237	0.0909	0.0909	6,196,596 5,542,968	0.0147 0.0162
2017	_	_	0.8237	0.1081	0.1081	6,056,810	0.0182
2018	_	_	0.9324	0.1345	0.1345	6,888,320	0.0175
Total	0.30	0.70	5.6760	0.8190	1.1190	\$ 63,114,936	0.0177
						•	
	(15)	(16)	(17)	(18)			
	Statewide		Estimated	Frequency			
	Average	Adjustment	Miner	Claims per 100			
Year	Weekly Wage		<u>Years</u>	Miner Years			
2009	836	1.0720	134.4	0.0351			
2010	845	1.0720	103.5	0.0400			
2011	858	1.0720	128.0	0.0454			
2012	888	1.0720	152.9	0.0521			
2013	917	1.0720	138.4	0.2768			
2014 2015	932 951	1.0720 1.0720	125.5 116.9	0.0685 0.0777			
2015	951 978	1.0720	116.9	0.0777			
2016	976 995	1.0720	101.7	0.0990			
2017 2018	1,025	1.0720	120.6	0.1116			
Total	1,023	1.07 20	1,231.1	0.0909			
10101			1,201.1	0.0707			

Sources:

Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.05)xCol.(4) Col.(7): (1.00)xCol.(6) Col.(10): Exh. VIII-C

Col.(13): Exhibit X

Col.(15): Exhibit XII-D Col.(16): Exhibit X-G

Col.(17): (13) /( (15) x (16) x 52 )

Col.(18): (12) / (17) x 100

IBNR Award Ratio: 0.1443

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# Bituminous Prep-Plant (0184)

		Co	ounts				
	(1) Reported	(2) Awarded	(3) Pending	(4) Denied	(5) Pending Awarded	(6) Denied Reopened	(7) Denied Awarded
Year					(3) * 30%		
2009	# 1	# O	# 0	# 1	# 0.00	# 0.05	# 0.05
2010	-	-	-	-	-	-	-
2011	1	-	-	1	-	0.05	0.05
2012	-	-	-	-	-	-	-
2013	-	-	-	-	- 0.40	-	-
2014 2015	2	_	2	-	0.60	-	-
2015	-	-	-	-	-	-	-
2017	-	_	_		- -	_	_
2017 2018	_	_	_	- -		_	- -
Total	4		2	2	0.60	0.10	0.10
	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Ultimate	Ultimate		IBNR	Total		
	Awarded	Denied	IBNR	Awarded	Awarded		Frequency
Year	<u>(2)+(5)+(7)</u>	<u>(1)-(8)</u>		(10)xAward Ratio	<u>(8)+(11)</u>	<u>Payroll</u>	(12)/(13) x 1000000
2009	# 0.05	# 0.95	# 0.5174	# 0.0747	# 0.1247	\$ 19,828,012	0.0063
2010	-	-	0.7745	0.1118	0.1118	26,313,130	0.0042
2011	0.05	0.95	1.1559	0.1668	0.2168	35,155,068	0.0062
2012	-	-	1.2484	0.1801	0.1801	34,211,729	0.0053
2013	- 0 (0	1 40	1.3695	0.1976	0.1976	33,639,969	0.0059
2014 2015	0.60	1.40	1.4553 1.2359	0.2100 0.1783	0.8100 0.1783	31,854,431 24,320,608	0.0254 0.0073
2013	-	-	1.2337	0.1763	0.1630	20,079,401	0.0073
2017	_	_	1.7820	0.2571	0.2571	28,816,678	0.0089
2018	_	_	2.1694	0.3130	0.3130	32,053,553	0.0098
Total	0.70	3.30	12.8380	1.8525	2.5525	\$ 286,272,579	0.0089
	(15)	(16)	(17)	(18)			
	Statewide		Estimated	Frequency			
	Average	Adjustment	Miner	Claims per 100			
Year	Weekly Wage		<u>Years</u>	Miner Years			
2009	836	1.5490	294.5	0.0423			
2010	845	1.5490	386.6	0.0289			
2011	858	1.5490	508.7	0.0426			
2012	888	1.5490	478.3	0.0377			
2013	917	1.5490	455.4	0.0434			
2014	932	1.5490	424.3	0.1909			
2015	951	1.5490	317.5	0.0562			
2016	978	1.5490	254.9	0.0640			
2017	995	1.5490	359.6	0.0715			
<u>2018</u>	1,025	1.5490	388.2	0.0806			
Total			3,868.0	0.0660			

Sources:

Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.05)xCol.(4) Col.(7): (1.00)xCol.(6) Col.(10): Exh. VIII-C

Col.(13): Exhibit X

Col.(15): Exhibit XII-D Col.(16): Exhibit X-G

Col.(17): (13) /( (15) x (16) x 52 )

Col.(18): (12) / (17) x 100

IBNR Award Ratio: 0.1443

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## **Total Other Classes**

		С	ounts				
	(1)	(2)	(3)	(4)	(5) Pending	(6) Denied	(7) Denied
Year	Reported	Awarded	Pending	Denied	Awarded (3) * 30%	Reopened	Awarded
2009	# 1	# 0	# 0	# 1	# 0.00	# 0.05	# 0.05
2010	1	_	1	-	0.30	-	-
2011	1	-	-	1	-	0.05	0.05
2012	2	_	-	2	-	0.10	0.10
2013	2	-	1	1	0.30	0.05	0.05
2014	2	-	2	-	0.60	-	-
2015	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-
2017	-	_	-	-	-	-	-
<u>2018</u> Total	9		4		1.20	0.25	0.25
TOTAL	7	-	4	3	1.20	0.23	0.23
	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Ultimate	Ultimate		IBNR	Total		
	Awarded	Denied	IBNR	Awarded	Awarded		Frequency
Year	(2)+(5)+(7)	<u>(1)-(8)</u>		(10)xAward Ratio	<u>(8)+(11)</u>	<u>Payroll</u>	(12)/(13) x 1000000
2009	# 0.05	# 0.95	# 1.3200	# 0.1905	# 0.2405	\$ 47,614,281	0.0051
2010	0.30	0.70	1.6363	0.2361	0.5361	54,143,960	0.0099
2011	0.05	0.95	2.2972	0.3315	0.3815	66,137,721	0.0058
2012	0.10	1.90	2.5782	0.3720	0.4720	66,686,622	0.0071
2013	0.35	1.65	2.7898	0.4026	0.7526	64,540,358	0.0117
2014	0.60	1.40	3.0818	0.4447	1.0447	63,784,042	0.0164
2015 2016	-	-	3.0630 2.9557	0.4420 0.4265	0.4420 0.4265	56,815,357 49,731,072	0.0078 0.0086
2016	-	-	3.8611	0.4263	0.4263	59,234,540	0.0094
2017 2018	_	_	4.7427	0.6844	0.6844	65,973,820	0.0104
<u>zoro</u> Total	1.45	7.55	28.3258	4.0874	5.5374	\$ 594,661,773	0.0093
10141	11.10	7.00	20.0200	1.007	0.007	φ σ , 1,001,, 7 σ	0.0070
	(15)	(16)	(17)	(18)			
	Statewide		Estimated	Frequency			
	Average	Adjustment	Miner	Claims per 100			
Year	Weekly Wage	<u>Factor</u>	<u>Years</u>	Miner Years			
2009	836		890.7	0.0270			
2010	845		977.4	0.0549			
2011	858		1,156.5	0.0330			
2012	888		1,134.3	0.0416			
2013	917		1,059.9	0.0710			
2014	932		1,038.8	0.1006			
2015 2016	951 978		930.5 798.9	0.0475			
2016	978 995		908.0	0.0534 0.0614			
2017 2018	1,025		981.9	0.0614			
<u>zora</u> Total	1,025		9,876.9	0.0561			
ioidi			7,0/0.9	0.0361			

Sources:

Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.05)xCol.(4)

Col.(7): (1.00)xCol.(6) Col.(10): Exh. VIII-C

Col.(13): Sum of Pages 6 to 11

Col.(15): Exhibit XII-D Col.(16): Exhibit X-G

Col.(17): (13) /( (15) x (16) x 52)

Col.(18): (12) / (17) x 100

IBNR Award Ratio: 0.1443

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Effective Date - April 01, 2020 1,189,412,892.962870

#### **Grand Total**

		С	ounts				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
					Pending	Denied	Denied
	Reported	Awarded	Pending	Denied	Awarded	Reopened	Awarded
Year					<u>(3) * 30%</u>		
2009	# 10	# 1	# O	# 9	# 0.00	# 0.45	# 0.45
2010	10	-	3	7	0.90	0.35	0.35
2011	14	1	1	12	0.30	0.60	0.60
2012	17	2	1	14	0.30	0.70	0.70
2013	15	2	4	9	1.20	0.45	0.45
2014	21	1	4	16	1.20	0.80	0.80
2015	26	1	3	22	0.90	1.10	1.10
2016	9	-	1	8	0.30	0.40	0.40
2017	6	-	1	5	0.30	0.25	0.25
2018	3		1	2	0.30	0.10	0.10
Total	131	8	19	104	5.70	5.20	5.20
	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Ultimate	Ultimate		IBNR	Total		
	Awarded	Denied	IBNR	Awarded	Awarded		Frequency
Year	(2)+(5)+(7)	<u>(1)-(8)</u>		(10)xAward Ratio	<u>(8)+(11)</u>	<u>Payroll</u>	(12)/(13) x 1000000
2009	# 1.45	# 8.55	# 10.6867	# 1.5421	# 2.9921	\$ 229,498,510	0.0130
2010	1.25	8.75	14.5538	2.1001	3.3501	268,411,486	0.0125
2011	1.90	12.10	19.8949	2.8708	4.7708	323,119,308	0.0148
2012	3.00	14.00	23.4039	3.3772	6.3772	323,960,001	0.0197
2013	3.65	11.35	24.4237	3.5243	7.1743	293,506,562	0.0244
2014	3.00	18.00	32.0319	4.6222	7.6222	321,754,757	0.0237
2015	3.00	23.00	28.9783	4.1816	7.1816	261,874,410	0.0274
2016	0.70	8.30	27.2375	3.9304	4.6304	217,828,634	0.0213
2017	0.55	5.45	43.1907	6.2324	6.7824	285,631,355	0.0237
2018	0.40	2.60	51.7551	7.4683	7.8683	300,346,902	0.0262
Total	18.90	112.10	276.1565	39.8494	58.7494	\$ 2,825,931,925	0.0208
	(15)	(16)	(17)	(18)			
	Statewide		Estimated	Frequency			
	Average	Adjustment	Miner	Claims per 100			
Year	Weekly Wage	<u>Factor</u>	<u>Years</u>	Miner Years			
2009	836		4,124.0	0.0726			
2010	845		4,706.5	0.0712			
2011	858		5,573.5	0.0856			
2012	888		5,376.0	0.1186			
2013	917		4,664.7	0.1538			
2014	932		4,917.0	0.1550			
2015	951		3,982.1	0.1803			
2016	978		3,212.6	0.1441			
2017	995		4,030.5	0.1683			
2018	1,025		4,115.1	0.1912			
Total			44,702.0	0.1314			
			,. ==.0				

Sources:

Cols.(1) to (4): CMCRB Claims Database

Col.(6): (0.05)xCol.(4) Col.(7): (1.00)xCol.(6) Col.(10): Exh. VIII-C

Col.(13): Sum of Pages 5 & 12

Col.(15): Exhibit XII-D Col.(16): Exhibit X-G

Col.(17): (13) /( (15) x (16) x 52 )

Col.(18): (12) / (17) x 100

IBNR Award Ratio: 0.1443

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Exhibit IX-A Page 1 <u>Underground Anthracite</u> Class 1011

# COAL MINE COMPENSATION RATING BUREAU INDIVIDUAL CLAIM DETAIL FOR STATE AND FEDERAL EXCESS

"All Permanent Partial" Scenario (see note) Federal Excess: Federal Exces Awd (2) Medical Act 44 Act Offsets for: After Offsets: Offsets for: After Offsets: Exp. Miner at ID No. Class Pend (1) Type\* Benefit Bef. Act 44 Factor 44 Med. Soc. Sec. SS SS, PP Benefit Pension SS SS, PP Yr. Comp Date Pension Soc. Sec. Base Base 31,777 31,777 1717 1011 1993 61.3 616,007 1.00 151,129 23 23 4,618 324,768 82,540 174,767 174,767 175,555 503,734 1721 1011 1990 23,929 185,420 114,996 115,763 2 66.8 835,767 23,929 1.00 0 148,309 114,996 2053 1011 2 1992 47.4 1.723.268 53.414 1.00 53.414 309.016 195.740 0 26.060 168,996 622,424 421.097 421.097 421.097 3070 1011 2 1993 61.2 468,251 31,777 1.00 31,777 149,842 217 286,907 81.838 82,412 82,412 83,194 5551 1011 2 1993 64.8 581,466 26,411 1.00 26,411 162,869 7 2,176 324,518 107,872 147,999 147,999 148,734 5717 1011 1992 50.0 1,410,323 48,617 1.00 48,617 278,359 169,412 11 43,295 185,278 513,257 423,085 423,085 423,085 6627 1011 1999 62.2 30,384 1.00 30,384 72,714 214,005 276,746 146,563 72,714 214,005 214,005 276,746 LS 146,563 214,005 10280 1011 2 LS 2011 49.9 549,322 48,617 1.00 48,617 449,973 449,973 449,973 549,322 449,973 449,973 449,973 10536 1011 2 LS 2013 53.7 417,105 42,275 1.00 42,275 394,759 394,759 394,759 417,105 394,759 394,759 394,759

Total Underground Anthracite	9	6,748,072	337,199	337,199	587,375	1,087,126	1,058,778	1,128,123	1,482,765	3,688,598	0	493,273	2,423,094	2,423,094	2,488,907	
Average of 9 claims		749,786	37,467	37,467	65,264	120,792	117,642	125,347	164,752	409,844	0	54,808	269,233	269,233	276,545	
		7,085,271														
Medical plus Indemnity		787,252			65,264	120,792	117,642	125,347	164,752	447,311	0	54,808	269,233	269,233	276,545	
Adjusted										447,311	0	54,808	269,233	269,233	276,545	

<sup>\*</sup> Type code is as follows: 500 is 500 Weeks, WO is Widow Only, LS is Lump Sum, otherwise claim is Lifetime.

For the "All Permanent Partial" Scenario, Permanent claims for a Miner or Miner and Spouse were re-run with 630 weeks of State Indemnity benefits.

 $\label{thm:policy} \mbox{Widow Only, Commuted/Compromised and Lump Sums were the same as in the Base Scenario.}$ 

Source: Individual claim data from CMCRB.

62,440,868.281701

Class 1002

#### COAL MINE COMPENSATION RATING BUREAU INDIVIDUAL CLAIM DETAIL FOR STATE AND FEDERAL EXCESS

"All Permanent Partial" Scenario (see note) Age of Federal Excess Federal Exces Awd (2) Exp. Miner at State Medical Act 44 Act Offsets for: State Offsets for: Benefit ID No. Class Pend (1) Type<sup>3</sup> Benefit 44 Med. Pension SS SS, PP Pension SS SS. PP Yr. Comp Date Bef. Act 44 Factor Soc. Sec. Base Soc. Sec. Base 1992 511 871,910 27,701 1.00 27,701 377,961 239,458 66,931 66,931 1002 562,688 68,689 63.5 517 1002 2 LS 1993 64.9 118,465 26,411 1.00 26,411 100,559 206,932 206,932 306,256 118,465 100,559 206,932 206,932 306,256 518 1002 2 1.5 1992 63.6 185.342 27.701 1.00 27.701 149.297 209.135 209.135 311.645 185.342 149.297 209.135 209.135 311.645 1330 1002 2 500 1993 63.3 428.399 29.025 1.00 29.025 132.286 258.795 258.795 258.795 428.399 132.286 258.795 258.795 258.795 1990 1892 1002 2 LS 67.4 65.673 23,929 1.00 23,929 50,833 223.221 223,221 274.055 65,673 50,833 223,221 223,221 274.055 3222 500 1992 62.8 158,917 29,025 1.00 29,025 49,072 223,352 223,352 237,099 158,917 49,072 223,352 223,352 237,099 3532 1995 58.1 321.273 1.00 61.274 23.592 270.516 286.384 305,643 321,273 61.274 23.592 270.516 286,384 1002 LS 36,141 36,141 305.643 26,411 203,220 3706 1002 2 LS 1992 65.1 124,135 1.00 26,411 99,200 203,220 203,220 301,554 124,135 99,200 203,220 301,554 244,225 5479 1002 2 1992 63.7 898,897 27,701 1.00 27,701 3 486,934 154,729 159,887 159.887 161.022 5918 1002 2 1990 66.7 1.149.277 23,929 1.00 23,929 373.052 44 642,699 292,783 127,558 127,558 129,130 5966 1002 2 1994 58.8 1 613 227 34 658 1.00 34 658 330 748 334 259 2 985 141 494 659 619 110 123 135 103 295 355 297 183 323 482 6415 1002 2 500 1992 62.4 476.664 30.384 1.00 30.384 154,888 235.701 235.701 235.701 476.664 154.888 235.701 235.701 235.701 6771 1002 2 500 1992 62.5 106,751 30.384 1.00 30.384 28,472 100,817 100,817 110,099 106,751 28,472 100,817 100,817 110,099 7004 1002 1992 60.7 1,214,290 31,777 1.00 31,777 306,317 0 625,335 181,056 185,075 185,075 186,586 7051 36.867 27,442 280,192 304,405 304.521 157.869 27,442 117 280,192 304,405 1002 LS 1997 56.5 157.869 1.00 36,867 117 304.521 25,153 238,657 253,311 7941 1002 2 LS 1994 66.3 19,287 1.00 25,153 14,655 238,657 19,287 14,655 238,657 238,657 253,311 8028 1002 2 1992 55.5 1.534.175 39,174 1.00 39,174 308,743 266.030 2.907 95.577 652,382 57.051 61.037 293,839 295.625 299,586 9826 1002 2 LS 1999 52.9 51.990 43.847 1.00 43.847 443,126 443.126 443.126 51.990 443.126 443.126 443.126 2001 31,777 31,777 9829 1.00 264,194 342,979 142,041 83,888 264,194 264,194 1002 2 LS 61.4 142,041 83,888 264,194 342,979 90 9835 1002 1999 55.0 3,525 40,716 1.00 40,716 471,387 471,478 471,478 3,525 90 471,387 471,478 471,478 9841 1002 LS 2001 59.3 134,940 34,658 1.00 34,658 47,247 131 279,249 325,510 325,641 134,940 47,247 131 279,249 325,510 325,641 9886 1002 LS 2000 59.9 629,656 33,203 1.00 33,203 82,208 99,523 266,584 266,584 268,158 629,656 82,208 99,523 266,584 266,584 268,158 9901 56,587 531,122 531,122 531,122 531,122 531,122 1002 2 LS 2002 45.3 196,428 1.00 56,587 531,122 196,428 9996 1002 2 LS 2004 52.3 90,811 45,430 1.00 45,430 415,913 415,913 415,913 90,811 415,913 415,913 415,913 10016 1002 2 LS 2002 58.7 163.060 34.658 1.00 34.658 57.191 61 258.036 305.635 305.696 163.060 57.191 61 258.036 305.635 305.696 10021 1002 2 LS 2000 66.1 95.013 25.153 1.00 25.153 72,822 182,169 182,169 254.990 95.013 72,822 182,169 182,169 254.990 10022 1002 2 LS 2000 59.0 94,525 34,658 1.00 34,658 33.189 281,047 314,183 314,183 94,525 33.189 281,047 314,183 314,183 10025 1002 2 LS 2000 57.7 94,561 36,141 1.00 36,141 24,979 306,118 331,075 331,075 94,561 24,979 306,118 331,075 331,075 10026 1002 LS 2000 94,853 31,777 1.00 31,777 57,321 240,573 240,573 297,748 94,853 57,321 240,573 240,573 297,748 61.4 10038 2 44.4 77,468 58,151 690,759 690,759 690.759 77,468 690,759 690,759 690,759 1002 LS 2000 1.00 58.151 10048 1002 2 LS 2005 54.6 92,719 40.716 1.00 40.716 2.378 359,110 361,488 361,488 92,719 2.378 359,110 361,488 361,488 10088 1002 2 LS 2005 60.5 126,608 33,203 1.00 33.203 74.743 101.082 101.082 156.283 126,608 74,743 101.082 101.082 156.283 10164 1002 15 2001 53.4 89 960 43 847 1.00 43 847 536 780 536,780 536.780 89 960 536 780 536,780 536 780 2 208,120 277,344 235,185 10208 1002 2 15 2005 61.6 235,185 30.384 1.00 30.384 140.687 208,120 140.687 208,120 208,120 277,344 10286 1002 2 LS 2008 58.0 115,912 36,141 1.00 36,141 30,619 360.869 391,258 391,258 115,912 30,619 360,869 391,258 391,258 10330 1002 2012 63.3 197,599 29.025 1.00 29.025 136,993 260.591 260.591 349,239 197,599 136,993 260.591 260.591 349,239 10345 1002 2 LS 2008 49.6 525,188 48.617 1.00 48,617 475.920 475.920 475,920 525,188 475,920 475,920 475.920 10347 239,748 26,411 26,411 159,298 170.372 170.372 247,196 239,748 159,298 170.372 170.372 247,196 1002 2 LS 2011 65.3 1.00 10357 1002 2 LS 2012 62.4 97.617 30,384 1.00 30.384 60,446 249,797 249,797 309,981 97.617 60,446 249,797 249,797 309,981 10360 1002 2 LS 2013 59.7 107.571 33,203 1.00 33.203 47.245 116,982 157,166 157,166 107.571 47,245 116,982 157,166 157,166 10433 1002 2 15 2012 48 O 88 415 22 739 1.00 22 739 68.331 215 893 215.893 284 224 88 415 68.331 215 893 215.893 284 224 10434 1002 2 LS 2013 62.7 74.829 29.025 1.00 29.025 53.239 263.047 263.047 316.286 74.829 53.239 263.047 263.047 316.286 10435 1002 2013 58.5 214,308 36,141 1.00 36,141 50,763 290,693 321,552 327,333 214,308 50,763 290,693 321,552 327,333 LS 5,847 5,847 25,153 25,153 133,496 133,496 10465 1002 2 LS 2011 65.8 16,580 1.00 133.496 133,496 16,580 133.496 133,496 44,273 44,273 10516 1002 2 LS 2014 75.8 74,770 14,602 1.00 14,602 106,460 106,460 150,733 74,770 106,460 106,460 150,733 10561 1002 2 LS 2014 60.6 131.077 31.777 1.00 31.777 88.721 93.335 93.335 155.719 131.077 88.721 93.335 93.335 155.719 10599 1002 2012 62.0 1.146.253 30.384 1.00 30.384 310.038 0 635.490 169.330 142.288 142.288 143.905 10601 LS 279.773 30.384 30.384 114,075 243.712 243,712 261.370 279.773 243.712 243.712 261.370 1002 2 2015 61.6 1.00 114.075 40,090 40,090 10652 1002 2 LS 2016 57.5 151,767 36,141 1.00 36,141 131,144 156,229 156,229 151,767 131,144 156,229 156,229 10667 1002 2013 61.4 740,372 31,777 1.00 31,777 236,921 453,641 129,396 81,202 81,202 82,437 1067 1002 LS 2013 57.4 208,355 37,648 1.00 37,648 31,148 5,995 288,321 307,520 313,405 208,355 31,148 5,995 288,321 307,520 313,405 10698 26,411 26,411 590.947 170,100 170,100 171.200 1002 2014 65.1 1,113,652 1.00 249,116 0 183,084 LS 359,726 362,086 10699 1002 2 2014 55.3 92,024 40,716 1.00 40,716 2,360 362,086 92,024 2,360 359,726 362,086 362,086 10700 1002 2 1.5 2014 73.8 69.018 16.419 1.00 16.419 45.103 45.103 45.103 69.018 45.103 45.103 45.103 10701 1002 2 15 2014 65.0 63 267 26.411 1.00 26,411 101 093 101.093 101 093 63 267 101.093 101.093 101 093 3,657 3,657 10703 1002 2 15 2016 62.4 5.906 30.384 1.00 30.384 329 346 329.346 333.003 5 906 329,346 329 346 333.003 10740 1002 2016 64.0 59,059 27,701 1.00 27,701 47,573 270,540 270,540 318,113 59,059 47,573 270,540 270,540 318,113 10755 1002 57.9 1.073.690 36.141 1.00 36.141 369.698 357.650 3.157 152.684 593,850 105,100 142,409 110,409 112,489 152.684 10772 1,204,513 27,701 27,701 573,441 2,484 649,870 143,334 143,334 146,000 1002 2013 64.5 1.00 363,305 287.623 10777 1002 2015 58.7 1,208,917 34.658 1.00 34.658 240,772 4.272 101,491 558.846 95.764 96.178 243.075 244,665 258,359 10778 1002 2 LS 2015 59.9 194.846 33,203 1.00 33.203 80.206 5.371 268,583 322,345 327.678 194.846 80.206 5.371 268,583 322.345 327.678 21 352 919 1 990 570 1 990 570 1,915,242 5.995.751 13.060.928 13.470.590 15.233.853 14.696.047 4.273.834 15.079.978 15,483,604 16,863,155 Total Underground Bituminous 61 986 466 Average of 61 claims 350,048 32,632 31,397 214,114 220,829 249,735 240,919 16,172 70,063 247,213 253,830 276,445 23.343.489 382,680 249.735 16,172 247.213 253.830 31.397 98.291 214.114 220.829 273.551 70.063 276,445 Medical plus Indemnity Adjusted 273.551 16.172 70.063 247.213 253.830 276.445

Source: Individual claim data from CMCRB.

<sup>\*</sup> Type code is as follows: 500 is 500 Weeks, WO is Widow Only, LS is Lump Sum, otherwise claim is Lifetime.

For the "All Permanent Partial" Scenario, Permanent claims for a Miner or Miner and Spouse were re-run with 630 weeks of State Indemnity benefits.

Widow Only, Commuted/Compromised and Lump Sums were the same as in the Base Scenario

#### COAL MINE COMPENSATION RATING BUREAU INDIVIDUAL CLAIM DETAIL FOR STATE AND FEDERAL EXCESS

"All Permanent Partial" Scenario (see note) Federal Excess Age of Awd (2) Exp. Miner at Medical Act 44 Offsets for: After Offsets State Offsets for: ID No. Class Pend (1) Type\* Yr. Comp Date Benefit Bef. Act 44 Factor 44 Med. Soc. Sec. Pension SS SS, PP Benefit Soc. Sec. Pension SS SS, PP Base Base 1994 1016 69.0 840,128 21,585 1.00 21,585 182,576 0 547,213 154,278 86,978 86,978 87,663 408 439 1016 2 LS 1999 73.6 22,722 16,419 1.00 16,419 79,401 79,401 79,401 22,722 79,401 79,401 79,401 566 1016 2 1990 63.6 900.783 27.701 1.00 27.701 165.359 12,471 12.471 18.773 332.272 104.763 427.005 427.005 427.773 636 1016 2 1994 62.3 588.096 30,384 1.00 30,384 148,316 21 21 5,013 314.086 81,004 165,584 165,584 166,357 778 1016 wo 1991 302,583 1.00 302,583 2 29,025 21,212 21,212 301,941 323,153 924 62.6 29,814 1.00 29,025 301,941 301,941 323,153 29,814 301,941 1719 1016 2 1996 63.1 707.334 29,025 1.00 29,025 240,773 444,779 142,315 74,349 74,349 75,537 2268 23,929 370,903 50,252 50,252 50,252 1016 1997 66.6 531,834 1.00 23,929 141.947 2287 2 67.8 22,739 1.00 134.676 141,947 141,947 141.947 535.505 134,676 141,947 141,947 1016 LS 1998 535,505 22,739 2479 1016 2 1990 63.9 792,986 27,701 1.00 27,701 226,417 9 449,703 143,447 138,198 138,198 139,250 2794 1016 2 1993 65.9 1 002 564 25 153 1.00 25 153 227 473 619 511 185 899 101 075 101 075 101 988 2827 1016 2 1992 66.1 788.736 25,153 1.00 25,153 174,182 0 482,427 140,648 107,827 107,827 108,539 3350 1016 2 wo 1993 #N/A 672,264 1.00 672,264 3814 1.00 44,678 44,678 1016 1993 71.8 62,978 18,368 18,368 44,678 49,675 57,982 57,982 57,982 3970 LS 1991 43.1 328,738 59,695 1.00 59,695 267.334 267,334 267,334 328,738 267,334 267,334 267,334 1016 137,368 82,553 2 21,585 1.00 21,585 160,949 0 81,964 81,964 5605 1016 1992 69.3 744,452 492,350 5805 1016 2 1992 67.2 597,124 23,929 1.00 23,929 416,437 49,958 49,958 49,958 6071 1016 2 1994 60.3 907.542 33.203 1.00 33.203 216.462 39 471.839 118.223 183.763 183,763 184.892 6322 1016 2 1991 59.5 558,233 34,658 1.00 34,658 55,675 54,819 122,471 122,471 122,471 558,233 55,675 54,819 122,471 122,471 122.471 1990 25,153 25,153 148,964 343 371,686 150,162 6481 1016 65.7 668,465 1.00 0 0 113,141 150,162 150,808 6603 1016 1995 69.8 460,580 20,471 1.00 20,471 99,480 2 1,233 294,118 83,579 96,655 96,655 97,032 6765 1016 WO 1990 #N/A 525,931 1.00 525,931 1997 30,384 30,384 198,075 2 108,181 81,714 81,714 82,747 7028 1016 2 62.3 618,981 1.00 379,262 7473 1016 2 1995 67.0 1,352,247 23,929 1.00 23,929 341,834 649,393 255,296 187,135 187,135 188,629 7825 1016 2 1995 67.6 482.325 22.739 1.00 22.739 105.794 0 0 1.153 304.616 87.464 99.151 99.151 99.567 7857 1016 2 1993 59.7 740.229 33,203 1.00 33,203 258,531 208.919 3.263 67.170 430,766 98,431 94.634 95.979 97.377 102.247 9805 1016 2 LS 2000 74.6 19,611 15,494 1.00 15,494 13,371 231,414 231,414 244,784 19,611 13,371 231,414 231,414 244,784 9811 1016 2001 48.1 ,003,318 51,816 1.00 51,816 218,962 103,204 108,114 207,058 366,315 415,253 415,253 415,253 1,243 9939 1016 LS 2003 61.4 208,900 31,777 1.00 31,777 84,178 270,919 270,919 311,198 208,900 84,178 270,919 270,919 311,198 9981 1016 2 2004 79.6 580,604 11,378 1.00 11,378 160.593 0 502.277 157,468 15.205 15.205 15.353 25 10030 1016 2 2005 60.2 675,208 33,203 1.00 33.203 158.359 25 3,633 345.591 86,489 193,570 193,570 194.396 10074 1016 2 LS 2003 61.5 100.272 31,777 1.00 31,777 60.596 102.016 102.016 157,182 100.272 60.596 102.016 102.016 157,182 10140 1016 2 15 2007 48 R 105 883 21,585 1.00 21,585 79 405 173 638 173,638 253 043 105 883 79 405 173,638 173,638 253 043 10190 1016 2 LS 2007 60.6 81.884 31,777 1.00 31,777 55.425 102,729 102,729 158,154 81.884 55.425 102,729 102,729 158,154 10259 1016 2 LS 2007 72.9 44,813 17,376 1.00 17,376 29,545 185,648 44,813 29,545 156,103 156,103 185,648 156,103 156,103 10278 1016 2011 76.7 101,258 13,744 1.00 13,744 46,691 103.264 103,264 149,955 101.258 46,691 103,264 103,264 149,955 27,701 10602 1016 LS 2016 63.7 155,317 1.00 27,701 125,111 228,030 228,030 331,144 155,317 125,111 228,030 228,030 331,144

Total Surface Anthracite	37	18,840,242	913,759	913,759			2,339,649	2,449,782						5,142,365	
Average of 37 claims		509,196	24,696	24,696	14,410	107,372	63,234	66,210	83,095	335,917	4,165	78,357	138,945	138,983	151,465
		19,754,001													
Medical plus Indemnity		533,892			14,410	107,372	63,234	66,210	83,095	360,614	4,165	78,357	138,945	138,983	151,465
Adjusted										360,614	4,165	78,357	138,945	138,983	151,465

<sup>\*</sup> Type code is as follows: 500 is 500 Weeks, WO is Widow Only, LS is Lump Sum, otherwise claim is Lifetime.

Source: Individual claim data from CMCRB.

For the "All Permanent Partial" Scenario, Permanent claims for a Miner or Miner and Spouse were re-run with 630 weeks of State Indemnity benefits.

Widow Only, Commuted/Compromised and Lump Sums were the same as in the Base Scenario.

#### COAL MINE COMPENSATION RATING BUREAU INDIVIDUAL CLAIM DETAIL FOR STATE AND FEDERAL EXCESS

"All Permanent Partial" Scenario (see note) Age of Federal Excess: After Offsets Awd (2) Exp. Miner at Medical Act 44 Offsets for: State Offsets for: SS SS, PP SS ID No. Class Pend (1) Type\* Yr. Comp Date Benefit Bef. Act 44 Factor 44 Med. Soc. Sec. Pension Benefit Soc. Sec. Pension Base SS, PP Base 1013 1993 64.4 1,347,525 27,701 27,701 252,393 192,648 192,648 513 1.00 398,379 651,551 194,500 245,970 10 171,516 656 1013 2 1999 53.5 1,073,199 42,275 1.00 42,275 162,674 36,616 440,966 20,455 17,875 321,301 322,751 330,302 1135 1013 LS 1990 45.5 591.690 56.587 1.00 56.587 515.705 515,705 515,705 591.690 515.705 515.705 515.705 2486 1013 2 LS 1996 64.2 78.963 27.701 1.00 27.701 63,606 94.710 94.710 158,310 78.963 63.606 94.710 94.710 158,310 3386 1013 2 LS 1993 57.8 345,731 36,141 1.00 36,141 40,273 38,498 299,534 301,936 324,687 345,731 40,273 38,498 299,534 301,936 324,687 3867 55,006 299,078 50,622 480,542 480,542 480,542 1,660,658 55,006 1.00 166,594 194,008 567,638 3968 1013 500 1991 43.7 442,982 58,151 1.00 58,151 258,177 258,177 258,177 442,982 258,177 258,177 258,177 5814 1013 1997 11,154 31,777 31,777 6,741 303,496 303,496 11,154 6,741 303,496 303,496 310,237 LS 61.0 1.00 310,237 5816 1013 2 LS 1996 61.0 188,317 31,777 1.00 31,777 113.802 224.337 224,337 304.872 188.317 113.802 224.337 224.337 304.872 5963 1013 LS 1994 59.1 66.585 34.658 1.00 34.658 23.379 343,144 366,523 366,523 66.585 23,379 343,144 366,523 366,523 5968 1013 2 15 1995 56.9 322 406 37 648 1.00 37 648 23,503 20.872 338 450 340 941 352 503 322 406 23,503 20.872 338 450 340 941 352 503 7788 1013 2 LS 1991 69.2 196,641 21,585 1.00 21,585 131,474 94.314 94.314 181,976 196,641 131,474 94.314 94.314 181,976 9770 1013 LS 1999 59.2 44,486 34,658 1.00 34,658 15,620 316,730 332,350 332,350 44,486 15,620 316,730 332,350 332,350 9771 1013 LS 1998 62.5 29,025 1.00 29,025 82,717 93,772 93,772 156,219 116,260 82,717 93,772 93,772 156,219 116,260 9999 1013 2005 46.2 35,934 55,006 1.00 55,006 289,784 289,784 289,784 35,934 289,784 289,784 289,784 LS 482,075 10439 1013 2 2011 61.5 30,384 1.00 30,384 260,963 74,020 74,020 75,308 766,646 154,248 187,230 10537 1013 LS 2012 64.5 111.897 27,701 1.00 27,701 90.135 187,230 276.056 111.897 90.135 187,230 187,230 276,056 10582 1013 2 LS 2015 72.1 95.948 18.368 1.00 18.368 40.772 40,772 40.772 95.948 40,772 40,772 40.772 10598 1013 2 LS 2012 61.7 24,866 30,384 1.00 30,384 17,246 310,035 310,035 327,281 24,866 17,246 310,035 310,035 327,281 10659 1013 2015 56.9 84,660 37,648 1.00 37,648 15,092 146,034 161,126 161,126 84,660 15,092 146,034 161,126 161,126 280,375 39,174 10665 1013 LS 2014 55.8 1.00 39,174 14,005 12,187 334,456 339,849 346,725 280,375 14,005 12,187 334,456 339,849 346,725

Total Surface Bituminous	21	7,886,923	763,353	763,353	676,920	1,565,887	4,190,695	4,342,297	5,068,829	5,181,126	152,328	1,001,794	5,259,193	5,325,020	5,783,956	
Average of 21 claims		375,568	36,350	36,350	32,234	74,566	199,557	206,776	241,373	246,720	7,254	47,704	250,438	253,572	275,426	
		8,650,277														
Medical plus Indemnity		411,918			32,234	74,566	199,557	206,776	241,373	283,070	7,254	47,704	250,438	253,572	275,426	
Adjusted										283.070	7 254	47 704	250 438	253 572	275 426	

<sup>\*</sup> Type code is as follows: 500 is 500 Weeks, WO is Widow Only, LS is Lump Sum, otherwise claim is Lifetime.

For the "All Permanent Partial" Scenario, Permanent claims for a Miner or Miner and Spouse were re-run with 630 weeks of State Indemnity benefits.

Widow Only, Commuted/Compromised and Lump Sums were the same as in the Base Scenario.

Source: Individual claim data from CMCRB.

# COAL MINE COMPENSATION RATING BUREAU INDIVIDUAL CLAIM DETAIL FOR STATE AND FEDERAL EXCESS

"All Permanent Partial" Scenario (see note) Federal Excess: Federal Exces Medical Act 44 Offsets for: After Offsets: After Offsets: Awd (2) Exp. Miner at State \_ Offsets for: SS SS, PP Benefit SS SS, PP ID No. Class Pend (1) Type\* Yr. Comp Date Benefit Bef. Act 44 Factor 44 Med. Soc. Sec. Pension Soc. Sec. Pension Base Base 3221 1017 1993 60.8 1,482,067 31,777 1.00 31,777 424,018 172 650,584 245,154 245,154 247,246 250,626 37,454 337,600 3224 1017 2 LS 1992 56.9 236,961 37,648 1.00 37,648 4,789 316,904 342,316 236,961 37,454 4,789 316,904 337,600 342,316 9944 1022 2 LS 2003 53.1 86.200 43.847 1.00 43.847 370.725 370.725 370.725 86.200 370.725 370.725 370.725 10124 1024 2 LS 2006 60.0 117.198 33,203 1.00 33,203 51.473 324,018 375,056 375,056 117.198 51.473 324,018 375,056 375,056 1126 1026 1997 55.4 498,933 40,716 1.00 40,716 178,830 97,514 28 52,155 142,844 256,299 24,012 18,327 138,213 139,259 151,472 9877 1026 1997 54.7 39,752 40,716 1.00 40,716 1,019 202,832 203,851 203,851 39,752 1,019 202,832 203,851 203,851 9993 1.00 168,700 124,172 168,700 1026 LS 2004 78.1 75,048 44,528 124,172 124,172 75,048 44,528 124,172 10161 1026 LS 2007 29,776 59,695 1.00 59,695 726,353 29,776 726,353 726,353 726,353 43.2 726,353 726,353 1026 16,419 16.419 91,166 333.150 46,191 46,191 46.418 10245 2 2010 74.5 440,723 1.00 3 84.341 10600 1026 2 LS 2015 72.2 179.896 18.368 1.00 18.368 57,101 55.864 55.864 86.517 179.896 57,101 55.864 55.864 86.517 10650 1026 2 15 2017 52.5 91.830 45 430 1.00 45 430 270 675 270.675 270 675 91.830 270.675 270,675 270,675 10718 1026 2 LS 2014 58.6 112.642 34,658 1.00 34,658 37,094 2.456 313.069 349.810 352.265 112,642 37,094 2,456 313,069 349.810 352.265 9784 1028 2 2000 78.3 69,237 1.00 40,427 171,193 171,193 211,620 69,237 40,427 171,193 171,193 211,620 10741 1028 2016 62.1 938,500 30,384 1.00 30,384 484,576 575,038 264,656 80,292 80,292 82,819

Total Surface Bituminous Average of 14 claims	14	4,398,763 314,197	432,860 30,919	432,860 30,919	305,871 21,848	1,246,574 89,041	2,875,831 205,417	3,037,454 216,961	3,251,101 232,222	2,853,611 203,829	151,053 10,790	767,248 54,803	3,385,654 241,832	3,496,195 249,728	3,636,034 259,717
		4,831,623													
Medical plus Indemnity		345,116			21,848	89,041	205,417	216,961	232,222	234,748	10,790	54,803	241,832	249,728	259,717
Adjusted										234,748	10,790	54,803	241,832	249,728	259,717

<sup>\*</sup> Type code is as follows: 500 is 500 Weeks, WO is Widow Only, LS is Lump Sum, otherwise claim is Lifetime.

For the "All Permanent Partial" Scenario, Permanent claims for a Miner or Miner and Spouse were re-run with 630 weeks of State Indemnity benefits.

 $\label{thm:policy} \mbox{Widow Only, Commuted/Compromised and Lump Sums were the same as in the Base Scenario.}$ 

Source: Individual claim data from CMCRB.

70,913,646.563635

# Coal Mine Compensation Rating Bureau Individual Claim Detail for Federal Basic

#### Exhibit IX-B Page 1 <u>Underground Anthracite</u> Class 160

					Age of		
		Awd (2)	Exp.		Miner at	Federal	
ID No.	Class	Pend (1)	Date	Type*	Comp. Date	Benefit	Medical
1335	160	2	4/4/1994	0	61.23	186,249	68,094
2051	160	2	12/6/1990	0	64.94	299,756	56,594
3089	160	2	12/6/1990	0	52.39	594,456	97,350
3156	160	2	6/22/1990	0	67.11	431,357	51,276
3720	160	2	10/1/1990	WO	N/A	242,275	-
4555	160	2	6/22/1990	0	67.34	297,032	51,276
4735	160	2	5/5/1992	WO	N/A	276,676	-
7258	160	2	12/2/1993	0	59.78	433,362	71,148
7489	160	2	6/22/1990	0	54.50	544,726	87,249
7863	160	2	12/6/1990	0	56.42	644,688	83,944
9876	160	2	6/13/2001	0	64.89	291,352	56,594
9929	160	2	5/7/2001	0	51.00	447,288	100,760
9960	160	2	4/1/1999	WO	N/A	136,950	-
10199	160	2	1/1/1990	0	60.50	410,211	71,148
10200	160	2	10/24/2006	0	53.47	572,885	93,957
10237	160	2	7/21/2003	0	65.28	283,279	56,594
10395	160	2	6/30/1999	0	59.24	203,137	74,268
10482	160	2	6/1/1991	0	61.87	420,878	65,108
10520	160	1	7/16/1998	0	52.76	482,905	93,957

 Total Underground Anthracite
 7,199,462
 1,179,318

 Average of 19 claims
 59.54
 378,919
 62,069

 Medical plus Indemnity
 440,988

# Coal Mine Compensation Rating Bureau Individual Claim Detail for Federal Basic

					Age of		
		Awd (2)	Exp.		Miner at	Federal	
ID No.	Class	Pend (1)	Date	Type*	Comp. Date	Benefit	Medical
275	158	2	9/25/1992	0	71.39	276,784	41,569
508	158	2	8/15/1991	0	75.55	85,586	31,291
917	158	2	4/1/1993	0	62.00	375,574	65,108
931	158	2	3/3/1995	0	68.32	291,628	48,726
3481	158	2	5/20/1990	0	57.28	442,011	80,674
5821	158	2	5/1/1992	0	69.52	247,156	43,867
6950 7484	158 158	2 2	9/30/1990 1/1/1990	0 WO	57.91 N/A	402,463 325,540	77,445
7689	158	2	9/19/1991	0	54.11	487,040	90,588
8381	158	2	12/31/1997	0	77.23	172,887	29,452
9758	158	1	6/28/2000	0	52.23	514,113	97,350
9857	158	2	7/14/1992	0	79.44	159,143	26,000
9863	158	2	5/1/1990	0	73.06	101,843	37,234
9870	158	2	6/1/1994	WO	N/A	300,756	-
10032	158	2	1/3/1999	0	74.23	245,737	35,184
10042	158	2 2	11/15/2001	0	55.61	472,531	83,944
10065 10086	158 158	2	10/9/1992 2/9/2006	WO 0	N/A 56.41	107,178 472,531	83,944
10090	158	2	5/1/2004	0	61.18	352,165	68,094
10123	158	2	3/1/1999	0	52.44	490,632	97,350
10129	158	2	7/1/1993	0	61.63	499,809	65,108
10169	158	1	12/26/2008	0	67.29	140,249	51,276
10182	158	2	9/1/2001	0	61.75	345,542	65,108
10189	158	2	7/11/2002	0	55.34	238,644	87,249
10194	158	2	10/10/2001	0	66.61	306,272	51,276
10218	158	2	1/1/1999	0	66.66	279,592	51,276
10254	158	2	5/1/1999	0	67.52	257,793	48,726
10255 10265	158	2 2	12/1/1992 5/15/1999	WO	N/A	171,367 439,907	- (2.107
10265	158 158	2	6/30/2002	0	63.36 67.37	140,249	62,197 51,276
10293	158	2	12/1/2003	0	65.01	347,141	56,594
10299	158	2	2/4/2001	0	65.28	268,118	56,594
10315	158	2	4/1/1993	0	66.37	285,358	53,899
10327	158	2	12/1/1991	0	68.11	257,793	48,726
10328	158	2	4/6/1994	0	72.51	203,125	37,234
10366	158	2	10/12/1991	0	71.12	226,845	41,569
10367	158	2	6/10/1997	0	64.04	385,614	59,359
10368	158	2	2/24/1996	0	70.14	332,076	43,867
10387	158	2	10/12/1991	0	61.09	334,206	68,094
10397	158	1	12/15/1996	0	75.22	169,034	33,202
10402 10446	158 158	2 2	1/15/2013	0	65.42 69.46	299,756	56,594
10455	158	2	12/1/1992 3/1/2002	0	67.46	126,515 271,370	46,254 51,276
10457	158	1	9/5/2007	0	50.16	654,070	104,178
10464	158	1	9/12/2014	0	64.50	347,141	56,594
10492	158	1	5/15/2000	0	61.32	361,712	68,094
10498	158	2	5/15/1992	0	75.59	85,586	31,291
10499	158	1	9/30/1996	0	43.02	349,878	127,917
10523	158	1	4/11/1995	0	66.87	306,272	51,276
10529	158	1	5/26/2000	0	66.26	277,209	53,899
10531	158	2	5/26/2000	0	72.88	184,054	37,234
10552	158	1	10/22/2015	0	65.63	331,277	53,899
10558 10567	158	2 1	9/30/1994 6/30/2000	0	66.17	269,388	53,899 97,350
10573	158 158	1	6/15/1991	0	51.60 38.06	266,273 917,533	143,581
10578	158	1	11/23/2015	0	56.91	399,718	80,674
10584	158	2	7/15/1996	0	79.41	153,050	26,000
10593	158	1	5/29/2000	0	62.00	345,542	65,108
10595	158	1	2/11/2010	0	73.01	210,114	37,234
10610	158	2	7/31/1999	0	66.67	405,535	51,276
10639	158	1	11/24/1996	0	41.32	750,516	134,380
10655	158	1	5/31/2017	0	61.08	334,206	68,094
10661	158	1	4/1/2015	0	67.22	297,032	51,276
10673	158	2	11/18/2011	0	65.02	275,535	56,594
10695 10720	158 158	1 1	3/30/2000 12/1/1992	0	42.38 52.39	712,783 552,429	131,175 97,350
10722	158	1	2/23/1997	0	47.99	668,502	111,035
10725	158	2	4/1/1993	0	76.03	143,914	31,291
10742	158	1	4/30/2018	0	63.94	333,005	59,359
10757	158	1	5/1/1992	0	55.38	238,644	87,249
10758	158	1	6/1/1994	0	41.11	766,214	134,380
10761	158	1	12/31/1999	0	51.18	559,851	100,760
10765	158	1	6/30/2002	0	49.75	284,949	104,178
Takel Unit	um el Pil					04 401 404	4 501 001
Total Undergro Average of 73		TIITIOUS			40.77	24,431,606	4,531,201
Medical plus In		,			62.77	334,680 396,751	62,071
caicai pius III						3,0,701	

<sup>\*</sup>Type is "WO" for Widow Only claims; 0 for all other claims. Source: Individual claim detail from CMCRB.

					Age of		
		Awd (2)	Exp.		Miner at	Federal	
ID No.	Class	Pend (1)	Date	Type*	Comp. Date	Benefit	Medical
926	153	2	2/29/1996	0	58.31	392,387	77,445
2157	153	1	10/10/1990	0	54.96	573,499	87,249
2299	153	2	1/15/1990	0	60.12	410,211	71,148
3725	153	2	9/30/1995	0	65.56	254,733	53,899
3955	153	2	10/29/1995	0	66.54	325,840	51,276
4749	153	2	1/3/1992	0	65.72	241,401	53,899
5044	153	2	2/4/1990	0	71.50	207,840	39,360
5131	153	2	5/22/1992	0	68.11	320,611	48,726
5372	153	2	3/10/1997	0	60.04	399,206	71,148
5952	153	2	1/31/1995	WO	N/A	121,501	-
6287	153	2	10/28/1990	0	73.92	185,485	35,184
6303	153	2	8/5/1990	WO	N/A	190,307	-
6581	153	2	6/5/1997	WO	N/A	200,172	-
7032	153	2	2/10/1993	0	62.41	365,181	65,108
7250	153	2	9/30/1993	WO	N/A	300,756	-
7263	153	2	3/1/1991	WO	N/A	200,172	-
7451	153	2	11/5/1990	0	72.80	190,102	37,234
9726	153	2	8/10/1995	0	68.28	274,054	48,726
9739	153	2	12/22/2000	0	73.86	213,054	35,184
9760	153	2	2/7/2000	0	75.44	187,553	33,202
9885	153	2	6/1/1998	0	66.88	263,474	51,276
9940	153	2	12/1/1990	0	63.20	479,986	62,197
10049	153	1	11/19/2005	0	61.99	345,542	65,108
10073	153	2	3/1/2005	0	60.49	388,583	71,148
10107	153	2	1/6/2004	0	56.26	427,425	83,944
10109	153	2	4/4/2003	0	65.00	154,796	56,594
10145	153	2	5/24/2007	0	59.55	421,596	71,148
10156	153	2	10/21/2002	0	75.14	208,877	33,202
10222	153	2	2/2/2006	0	74.97	194,343	33,202
10231	153	2	4/2/2003	0	65.03	291,352	56,594
10232	153	2	7/31/2004	0	56.70	420,085	80,674
10261	153	2	5/30/1996	0	67.25	297,032	51,276
10275	153	2	3/31/2003	0	68.92	295,808	46,254
10384	153	2	10/23/2007	0	76.31	85,586	31,291
10429	153	2	5/22/2013	0	54.36	499,159	90,588
10459	153	2	8/3/2009	0	57.34	409,707	80,674
10621	153	1	2/28/2013	0	63.34	358,944	62,197
10653	153	1	11/25/2016	0	48.87	525,840	107,604
10672	153	1	5/12/2013	0	65.49	299,756	56,594
10693	153	1	4/17/1992	0	38.90	828,339	140,595
10717	153	2	1/30/2008	0	70.84	226,845	41,569

 Total Surface Anthracite
 12,977,140

 Average of 41 claims
 64.29
 316,516

 Medical plus Indemnity
 369,748

2,182,520

53,232

Exhibit IX-B

Page 4

Class 156

#### Coal Mine Compensation Rating Bureau Individual Claim Detail for Federal Basic

					Age of		
		Awd (2)	Exp.		Miner at	Federal	
ID No.	Class	Pend (1)	Date	Type*	Comp. Date	Benefit	Medical
170	156	2	0./22./100.4	0	70.19	247,156	42.077
178 600	156	2	9/23/1994 9/10/1992	0	62.67	329,830	43,867 62,197
601	156	2	6/19/1992	0	66.18	302,658	53,899
1356	156	2	5/1/1995	0	55.30	530,920	87,249
2494	156	2	4/19/1996	0	64.66	336,922	56,594
3047	156	2	12/31/1996	0	77.58	150,976	27,690
3058	156	2	1/17/1991	0	65.64	311,831	53,899
5221	156	2	6/4/1995	0	66.01	277,209	53,899
5374	156	2 2	10/21/1991	WO	N/A	496,087	-
5483 6244	156 156	2	8/6/1990 10/10/1990	0	61.43 81.72	186,249 100,647	68,094 21,402
6949	156	2	12/7/1994	0	54.92	544,726	87,249
7245	156	2	9/1/1991	0	77.57	150,976	27,690
7248	156	2	8/31/1995	0	64.94	299,756	56,594
7893	156	2	2/19/1992	0	61.43	352,165	68,094
8012	156	2	1/1/1990	0	70.45	231,922	43,867
8022	156	2	11/1/1995	0	61.86	345,542	65,108
9761	156	2 2	9/30/1991	0	74.06	185,485	35,184
9767 9795	156 156	2	6/1/2000 12/1/1992	0	62.11 69.69	355,169 247,156	65,108 43,867
9866	156	2	9/20/1994	0	78.84	71,115	26,000
9945	156	2	8/31/1995	0	73.69	198,632	35,184
9953	156	2	3/1/1994	0	55.28	544,726	87,249
9961	156	2	5/31/2000	0	52.09	580,045	97,350
9967	156	2	1/15/1990	0	71.04	219,656	41,569
10003	156	2	5/30/1995	0	72.79	217,429	37,234
10104	156	2	6/1/1990	0	71.51	107,656	39,360
10112	156	2	12/1/2007	0	63.94	232,149	59,359
10114 10128	156 156	2 2	10/26/1991 8/1/1994	WO 0	N/A 74.82	171,367 187,553	33,202
10204	156	2	2/28/1992	0	69.75	255,260	43,867
10206	156	1	2/8/2010	0	62.67	391,442	62,197
10217	156	2	11/25/2008	0	63.72	305,903	59,359
10221	156	2	1/1/1993	0	81.01	119,756	22,842
10266	156	1	8/1/1996	0	67.24	288,143	51,276
10281	156	1	5/1/2011	0	68.47	133,275	48,726
10305	156	2 2	3/1/1995	0	61.87	365,181	65,108
10333 10335	156 156	2	6/15/1992 6/1/1995	WO	80.08 N/A	66,690 220,683	24,382
10353	156	2	12/27/2012	0	58.61	405,962	74,268
10385	156	2	3/1/2012	WO	N/A	242,275	-
10400	156	1	2/28/1993	0	80.02	149,572	24,382
10414	156	2	4/27/2001	0	75.85	204,894	31,291
10418	156	2	1/1/2003	0	73.15	217,429	37,234
10447	156	2	12/1/2008	0	76.83	166,602	29,452
10458 1051 <i>7</i>	156	2 2	11/1/2008	0	73.78 67.97	198,632	35,184
10517	156 156	2	4/1/2014 5/1/1996	0	67.14	265,761 297,032	48,726 51,276
10554	156	2	4/13/2015	0	76.53	172,887	29,452
10566	156	2	8/31/2001	0	76.17	153,722	31,291
10604	156	1	5/1/2001	0	60.37	378,342	71,148
10609	156	2	7/1/1996	0	68.92	260,389	46,254
10679	156	1	10/1/2008	0	51.30	534,064	100,760
10684	156	1	12/22/1998	0	50.54	559,851	100,760
10688	156	1	5/1/1996	0	40.36	742,389	137,523
10690 10692	156	1	8/1/1995 11/1/1994	0	45.64 51.61	683,177 705,053	117,869 97.350
10692	156 156	2	11/1/1994 8/1/1992	0	76.16	148,664	97,350 31,291
10074	156	1	1/1/1991	0	42.76	662,090	127,917
10756	156	1	10/1/1991	0	34.98	807,002	151,991
10760	156	1	9/1/1998	0	44.34	340,828	124,608
10767	156	1	1/1/2005	0	54.79	456,521	87,249
10771	156	1	9/1/2013	0	66.63	140,249	51,276
10774	156	1	6/1/2012	0	63.74	323,604	59,359
10779	156	1	11/1/2014	0	70.49	255,260	43,867

20,132,295 3,597,594 Total Surface Bituminous Average of 65 claims 65.34 309,728 55,348 365,075 Medical plus Indemnity

#### Coal Mine Compensation Rating Bureau Individual Claim Detail for Federal Basic

Exhibit IX-B Page 5 Six Minor Classes Class - Other

					Age of		
		Awd (2)	Exp.		Miner at	Federal	
ID No.	Class	Pend (1)	Date	Type*	Comp. Date	Benefit	Medical
10500	1.57	1	2/1/2010	0	70.00	220 (01	20.270
10588	157	1	2/1/2010	0	72.29	229,601	39,360
3158	181	2	3/14/1997	0	62.00	365,181	65,108
9904	183	2	12/31/1997	WO	N/A	145,109	-
9992	183	2	7/22/2004	0	71.54	222,019	39,360
10620	183	1	10/1/2013	0	53.08	519,009	93,957
10135	184	2	2/1/2002	0	75.55	237,946	31,291
10244	184	1	1/1/1999	0	62.23	386,341	65,108
10338	184	2	10/15/2005	0	68.77	126,515	46,254
10456	184	1	7/1/2006	0	56.10	417,134	83,944
10750	184	1	6/30/2014	0	57.92	347,773	77,445
10751	184	1	11/1/2014	0	59.09	395,417	74,268

Total Other Classes 3,392,046 616,095 Average of 11 claims 63.86 308,368 56,009 364,376 Medical plus Indemnity

#### COAL MINE COMPENSATION RATING BUREAU Summary of Developed & Adjusted Payrolls Traumatic

T	Anthracite Underground	Bituminous Underground	Anthracite Surface	Bituminous Surface	Coke	Auger	Anthracite Co-gen	Bituminous Co-gen	Anthracite Prep Plant	Bituminous Prep Plant	Total
<u>Traumatic</u>	(1010)	(1001)	(1012)	(1014)	(1469)	<u>(1015)</u>	(1021)	(1023)	(1025)	(1027)	
1979 1980 1981 1982 1983 1984		<del>(1801)</del>	13.4	<del>, 1811,</del>	11811	1.5.157	, ive.,	TORRY	TORRY	, TVET,	
1985 1986											
1987				Pavro	oll data for thes	se vears is not	readily availat	ole			
1988				T dyn	on data for fires	10 Yours 15 1101	roddiiy dvaliak	510			
1989											
1990											
1991											
1992											
1993											
1994											
1995 1996											
1997	591,339	71,376,959	17,783,135	67,905,789	53,119,079	1,193,492	3,520,161	856,052	1,149,401	13,783,647	231,279,054
1998		62,342,332	17,705,195	63,651,561	13,353,903	1,173,472	3,458,775	1,161,196	1,032,902	11,112,104	175,234,248
1999		59,962,066	18,441,144	54,162,273	12,293,477	1,136,891	3,604,305	1,494,276	1,231,124	10,691,780	163,554,665
2000	336,885	48,553,836	16,807,810	49,935,622	12,092,574	1,205,877	4,473,458	1,870,720	1,319,466	8,574,760	145,171,008
2001	434,499	49,724,653	13,940,797	58,151,332	10,375,826	1,429,131	5,234,468	2,121,331	3,609,649	10,155,025	155,176,711
2002	197,351	50,439,544	12,251,258	53,502,085	10,485,005	1,150,843	6,358,543	2,386,124	3,781,693	12,649,826	153,202,272
2003	75,855	55,493,906	12,166,211	47,873,740	11,534,080	1,102,223	7,137,655	3,052,523	3,721,296	14,752,318	156,909,807
2004	-	66,842,986	12,359,731	56,217,298	12,049,126	1,058,799	7,351,514	6,374,483	4,406,653	18,067,286	184,727,876
2005	-	72,290,188	12,140,911	64,871,562	12,860,979	1,026,537	7,855,289	8,524,752	5,170,069	17,690,358	202,430,645
2006	530	71,907,931	11,946,382	63,008,975	12,737,394	1,066,831	8,405,393	9,397,580	4,885,882	17,050,967	200,407,865
2007	-	81,566,803	14,555,579	63,295,774	13,669,925	1,121,156	9,160,450	10,789,214	5,756,439	18,895,192	218,810,532
2008	-	103,490,690	16,954,313	73,054,482	9,761,146	2,488,558	7,958,335	8,468,561	6,390,767	21,250,256	249,817,108
2009	-	102,684,006	16,445,462	61,784,394	5,173,552	926,163	8,004,644	7,866,413	6,749,748	19,828,012	229,462,394
2010		126,687,464	14,295,288	72,711,558	5,435,658	806,696	8,481,228	8,732,701	5,762,086	26,313,130	269,231,509
2011	110,125	149,633,528	21,034,600	86,074,064	3,599,086	1,176,255	11,720,035	9,102,411	7,236,583	35,155,068	324,841,755
2012 2013		154,428,761	26,295,907	76,452,811	5,738,105	808,208	10,273,004	9,047,745	8,671,140	34,211,729	326,146,817
2013		149,953,068 271,230,707	22,449,824 20,466,075	61,349,745 54,050,731	4,791,910 4,464,398	1,025,399 806,976	8,342,651 9,060,883	10,355,884 11,721,184	8,265,665 8,234,771	34,253,697 43,520,040	300,963,743 423,814,574
2014		216,454,460	24,218,779	40,934,048	4,464,376	582,619	10,469,089	11,748,205	7,606,274	33,564,176	350,172,362
2013		148,556,407	20,873,611	29,127,089	4,435,066	372,496	8,994,602	11,746,203	7,008,274	23,689,882	254,559,392
2017	252,383	172,800,836	21,167,074	33,140,780	4,566,113	449,009	8,819,700	11,435,057	7,746,154	28,816,678	289,193,784
2017		179,699,685	19,677,526	35,266,431	4,456,795	560,126	11,591,488	11,996,610	9,643,085	32,053,553	305,128,645
_5.0		, , ,	.,,	,,	,	,0	.,,.50	.,,	.,,	,,	, ,

Source: Exhibits X-C and X-D Prior filings for 2007 and prior.

#### COAL MINE COMPENSATION RATING BUREAU Summary of Developed & Adjusted Payrolls State Occupational Disease

State OD	Anthracite Underground	Bituminous Underground	Anthracite Surface	Bituminous Surface	Coke	Auger	Anthracite Co-gen	Bituminous Co-gen	Anthracite Prep Plant	Bituminous Prep Plant	Total
<u>0.0.0 0 D</u>	(1011)	(1002)	(1016)	(1013)	(1017)	(1019)	(1022)	(1024)	(1026)	(1028)	
1979	3,398,172	155,459,760	33,547,630	189,274,623	8,602,156	1,250,040	-	-	-	-	391,532,381
1980	3,933,740	146,370,736	39,976,938	180,192,249	4,240,988	1,445,092	-	-	-	-	376,159,743
1981	4,989,959	141,497,489	45,905,609	193,710,747	3,521,616	1,581,422	-	-	-	-	391,206,842
1982	5,295,887	170,306,624	42,724,737	194,074,092	1,831,640	1,682,037	-	-	-	-	415,915,017
1983	4,169,015	82,776,145	34,841,224	146,423,067	124,805	1,260,780	-	-	-	-	269,595,036
1984	4,137,720	77,024,693	34,531,000	174,212,221	2,078,069	1,778,957	-	-	-	-	293,762,660
1985	4,507,670	46,693,499	31,216,341	143,422,695	2,528,033	1,561,675	-	-	-	-	229,929,913
1986	4,896,054	43,203,448	32,077,958	136,641,573	19,044,481	1,669,241	-	-	-	-	237,532,755
1987	4,061,875	55,036,577	25,008,155	134,305,891	26,573,681	1,695,582	-	-	-	-	246,681,761
1988	2,745,685	64,843,301	23,099,360	126,493,210	18,498,632	1,626,194	-	-	-	-	237,306,382
1989	2,066,292	74,335,286	27,044,506	125,361,713	12,583,451	1,888,442	-	-	-	-	243,279,690
1990	1,547,051	77,524,448	32,392,891	124,189,071	61,308,712	2,295,585	676,180	-	-	-	299,933,938
1991	718,147	59,439,370	30,956,584	104,583,500	52,451,102	1,718,758	1,093,089	-	-	-	250,960,550
1992	932,801	63,646,939	29,476,120	100,999,381	42,761,324	1,181,625	3,505,476	47,640	-	-	242,551,306
1993	1,181,997	52,756,526	30,103,392	94,556,592	53,619,736	1,112,232	3,624,439	391,507	-	-	237,346,421
1994	1,310,675	60,590,938	30,210,452	92,464,635	54,721,324	1,485,044	3,704,499	377,617	-	-	244,865,184
1995	1,493,523	65,271,146	20,288,894	78,752,605	55,000,220	1,499,639	3,481,847	360,161	-	-	226,148,035
1996	1,612,698	75,223,041	16,192,165	77,828,405	54,571,209	846,623	3,758,973	370,201	221,068	3,066,567	233,690,950
1997	1,571,605	70,396,693	17,783,135	67,905,789	53,119,079	1,193,492	3,520,161	856,052	1,149,401	13,783,647	231,279,054
1998	1,762,286	61,087,334	17,376,290	63,651,561	13,353,903	1,237,897	3,458,775	1,161,196	1,032,902	11,112,104	175,234,248
1999	1,814,157	58,685,238	18,441,144	54,162,273	12,293,477	1,136,891	3,604,305	1,494,276	1,231,124	10,691,780	163,554,665
2000	1,370,159	47,520,562	16,807,810	49,935,622	12,092,574	1,205,877	4,473,458	1,870,720	1,319,466	8,574,760	145,171,008
2001	1,636,522	48,522,630	13,940,797	58,151,332	10,375,826	1,429,131	5,234,468	2,121,331	3,609,649	10,155,025	155,176,711
2002	1,386,545	49,250,350	12,251,258	53,502,085	10,485,005	1,150,843	6,358,543	2,386,124	3,781,693	12,649,826	153,202,272
2003	1,354,265	54,215,496	12,166,211	47,873,740	11,534,080	1,102,223	7,137,655	3,052,523	3,721,296	14,752,318	156,909,807
2004	1,345,321	65,497,665	12,359,731	56,217,298	12,049,126	1,058,799	7,351,514	6,374,483	4,406,653	18,067,286	184,727,876
2005	1,417,568	70,872,620	12,140,911	64,871,562	12,860,979	1,026,537	7,855,289	8,524,752	5,170,069	17,690,358	202,430,645
2006	1,442,524	70,465,937	11,946,382	63,008,975	12,737,394	1,066,831	8,405,393	9,397,580	4,885,882	17,050,967	200,407,865
2007	1,662,537	79,904,266	14,555,579	63,295,774	13,669,925	1,121,156	9,160,450	10,789,214	5,756,439	18,895,192	218,810,532
2008	2,136,713	101,353,977	16,954,313	73,054,482	9,761,146	2,488,558	7,958,335	8,468,561	6,390,767	21,250,256	249,817,108
2009	1,335,866	101,348,140	16,445,462	61,784,394	5,173,552	926,163	8,004,644	7,866,413	6,749,748	19,828,012	229,462,394
2010	1,299,588	125,393,576	14,295,288	72,711,558	5,435,658	806,696	8,481,228	8,732,701	5,762,086	26,313,130	269,231,509
2011	1,257,944	148,485,709	21,034,600	86,074,064	3,599,086	1,176,255	11,720,035	9,102,411	7,236,583	35,155,068	324,841,755
2012	1,029,260	153,618,908	26,295,907	76,452,811	5,738,105	808,208	10,273,004	9,047,745	8,671,140	34,211,729	326,146,817
2013	381,876	149,747,092	22,449,824	61,349,745	4,791,910	1,025,399	8,342,651	10,355,884	8,265,665	34,253,697	300,963,743
2014	258,809	271,230,707	20,466,075	54,050,731	4,464,398	806,976	9,060,883	11,721,184	8,234,771	43,520,040	423,814,574
2015	254,336	216,454,460	24,218,779	40,934,048	4,340,376	582,619	10,469,089	11,748,205	7,606,274	33,564,176	350,172,362
2016	163,760	148,556,407	20,873,611	29,127,089	4,435,066	372,496	8,994,602	11,327,552	7,018,927	23,689,882	254,559,392
2017	252,383	172,800,836	21,167,074	33,140,780	4,566,113	449,009	8,819,700	11,435,057	7,746,154	28,816,678	289,193,784
2018	183,346	179,699,685	19,677,526	35,266,431	4,456,795	560,126	11,591,488	11,996,610	9,643,085	32,053,553	305,128,645

Source: Exhibits X-C and X-D Prior filings for 2007 and prior.

#### COAL MINE COMPENSATION RATING BUREAU Summary of Developed & Adjusted Payrolls Federal Occupational Disease

	_	Bituminous Underground	Anthracite Surface	Bituminous Surface	Coke	Auger	Anthracite Co-gen	Bituminous Co-gen	Anthracite Prep Plant	Bituminous Prep Plant	Total
Federal OD	<u>(0160)</u>	<u>(0158)</u>	(0153)	<u>(0156)</u>	<u>(0154)</u>	<u>(0157)</u>	<u>(0181)</u>	<u>(0182)</u>	<u>(0183)</u>	<u>(0184)</u>	
1979	3,398,172	155,459,760	33,547,630	189,274,623	8,602,156	1,250,040	-	-	-	-	391,532,381
1980	3,933,740	146,370,736	39,976,938	180,192,249	4,240,988	1,445,092	-	-	-	-	376,159,743
1981	4,989,959	141,497,489	45,905,609	193,710,747	3,521,616	1,581,422	=	=	=	=	391,206,842
1982	5,295,887	170,306,624	42,724,737	194,074,092	1,831,640	1,682,037	-	=	=	=	415,915,017
1983	4,169,015	82,776,145	34,841,224	146,423,067	124,805	1,260,780	-	-	-	-	269,595,036
1984	4,137,720	77,024,693	34,531,000	174,212,221	2,078,069	1,778,957	-	-	-	-	293,762,660
1985	4,507,670	46,693,499	31,216,341	143,422,695	2,528,033	1,561,675	-	-	-	-	229,929,913
1986	4,896,054	43,203,448	32,077,958	136,641,573	19,044,481	1,669,241	-	-	-	-	237,532,755
1987	4,061,875	42,076,700	25,008,155	134,305,891	26,573,681	1,695,582	-	-	-	-	233,721,884
1988	2,745,685	51,133,431	23,099,360	126,493,210	18,498,632	1,626,194	-	-	-	-	223,596,512
1989	2,066,292	58,507,532	27,044,506	125,361,713	12,583,451	1,888,442	-	-	-	-	227,451,936
1990	1,547,051	63,271,520	32,392,891	124,189,071	61,308,712	2,295,585	676,180	-	-	-	285,681,010
1991	718,147	58,318,242	30,956,584	104,583,500	52,451,102	1,718,758	1,093,089	-	-	-	249,839,422
1992	932,801	63,401,297	29,476,120	100,999,381	42,761,324	1,181,625	3,505,476	47,640	-	-	242,305,664
1993	1,181,997	52,756,526	30,103,392	94,556,592	53,619,736	1,112,232	3,624,439	391,507	-	-	237,346,421
1994	1,310,675	60,590,938	30,210,452	92,464,635	54,721,324	1,485,044	3,704,499	377,617	-	-	244,865,184
1995	1,493,523	65,271,146	20,288,894	78,752,605	55,000,220	1,499,639	3,481,847	360,161	-	-	226,148,035
1996	1,612,698	75,223,041	16,192,165	77,828,405	54,571,209	846,623	3,758,973	370,201	221,068	3,066,567	233,690,950
1997	1,571,605	70,396,693	17,783,135	67,905,789	53,119,079	1,193,492	3,520,161	856,052	1,149,401	13,783,647	231,279,054
1998	1,762,286	61,087,334	17,376,290	63,651,561	13,353,903	1,237,897	3,458,775	1,161,196	1,032,902	11,112,104	175,234,248
1999	1,814,157	58,685,238	18,441,144	54,162,273	12,293,477	1,136,891	3,604,305	1,494,276	1,231,124	10,691,780	163,554,665
2000	1,370,159	47,520,562	16,807,810	49,935,622	12,092,574	1,205,877	4,473,458	1,870,720	1,319,466	8,574,760	145,171,008
2001	1,636,522	48,522,630	12,923,748	58,151,332	10,375,826	1,429,131	4,661,813	2,121,331	2,216,299	10,155,025	152,193,657
2002	1,386,545	40,837,995	11,046,570	53,502,085	10,485,005	1,150,843	5,658,774	2,386,124	2,322,815	10,094,549	138,871,305
2003	1,354,265	36,498,406	11,928,209	47,873,740	11,534,080	1,102,223	7,009,619	3,052,523	3,407,998	10,195,206	133,956,269
2004	1,345,321	46,073,900	12,359,731	56,217,298	12,049,126	1,058,799	7,351,514	6,374,483	4,406,653	13,460,201	160,697,026
2005	1,417,568	66,275,755	12,140,911	64,871,562	12,860,979	1,026,537	7,855,289	8,524,752	5,170,069	16,548,307	196,691,729
2006	1,442,524	70,465,937	12,065,323	63,798,502	12,737,394	1,066,831	8,412,527	9,423,575	4,885,882	17,050,967	201,349,462
2007	1,662,537	79,904,266	14,866,556	64,808,093	13,669,925	1,121,156	9,186,706	10,829,140	5,817,291	18,895,192	220,760,862
2008	2,136,713	101,353,977	16,220,231	74,601,231	9,761,146	2,506,758	7,521,400	8,481,888	5,733,543	21,250,256	249,567,143
2009	1,335,866	101,348,140	15,893,528	63,306,695	5,173,552	946,963	7,534,735	7,866,413	6,264,606	19,828,012	229,498,510
2010	1,299,588	125,393,576	13,319,185	74,255,177	5,435,658	827,496	7,958,048	8,732,701	4,876,927	26,313,130	268,411,486
2011	1,257,944	148,485,709	19,507,428	87,730,506	3,599,086	1,176,255	10,981,642	9,102,411	6,123,259	35,155,068	323,119,308
2012	1,029,260	153,618,908	24,734,711	77,890,500	5,738,105	808,208	9,311,812	9,047,745	7,569,023	34,211,729	323,960,001
2013	381,876	145,146,253	20,720,014	62,718,061	4,791,910	1,046,947	7,630,762	10,355,884	7,074,886	33,639,969	293,506,562
2014	258,809	183,431,952	18,911,339	55,368,615	4,464,398	861,590	8,360,898	11,721,184	6,521,541	31,854,431	321,754,757
2015	254,336	140,570,275	22,234,350	42,000,092	4,340,376	654,766	9,554,806	11,748,205	6,196,596	24,320,608	261,874,410
2016	163,760	118,545,477	19,257,107	30,131,218	4,435,066	392,776	7,953,309	11,327,552	5,542,968	20,079,401	217,828,634
2017	252,383	172,800,836	19,094,634	34,248,962	4,566,113	566,324	7,793,558	11,435,057	6,056,810	28,816,678	285,631,355
2018	183,346	179,746,573	18,332,737	36,110,426	4,456,795	560,126	10,018,416	11,996,610	6,888,320	32,053,553	300,346,902

Source: Exhibits X-C and X-D Prior filings for 2007 and prior.

	ANTHRA	CITE UNDERGRO	OUND (1010)	BITUMI	nous undergro	DUND (1001)	ANTHI	RACITE SURFAC	CE (1012)	BIT	uminous surfac	E (1014)
-	LOSS	DEVELOPED	LOSS COST	LOSS	DEVELOPED	LOSS COST	LOSS	DEVELOPED	LOSS COST	LOSS	DEVELOPED	LOSS COST
YEAR	COST	PAYROLL	<u>PREMIUM</u>	COST	PAYROLL	PREMIUM	COST	PAYROLL	<u>PREMIUM</u>	COST	PAYROLL	PREMIUM
2008	21.59	0	0	6.87	103,490,690	7,109,810		16,954,313	1,742,903	2.09	73,054,482	1,526,839
2009	21.59	0	0	6.87	102,684,006	7,054,391	10.28	16,445,462	1,690,593	2.09	61,784,394	1,291,294
2010	21.59	5,700	1,231	6.87	126,687,464	8,703,429	10.28	14,295,288	1,469,556	2.09	72,711,558	1,519,672
2011	21.59	110,125	23,776	6.87	149,633,528	10,279,823	10.28	21,034,600	2,162,357	2.09	86,074,064	1,798,948
2012	21.59	219,407	47,370	6.87	154,428,761	10,609,256	10.28	26,295,907	2,703,219	2.09	76,452,811	1,597,864
2013	21.59	175,900	37,977	6.87	149,953,068	10,301,776	10.28	22,449,824	2,307,842	2.09	61,349,745	1,282,210
2014	21.59	258,809	55,877	6.87	271,230,707	18,633,550		20,466,075	2,103,913	2.09	54,050,731	1,129,660
2015	21.59	254,336	54,911	6.87	216,454,460	14,870,421		24,218,779	2,489,690	2.09	40,934,048	855,522
2016	21.59	163,760	35,356	6.87	148,556,407	10,205,825		20,873,611	2,145,807	2.09	29,127,089	608,756
2017	21.59	252,383	54,489	6.87	172,800,836	11,871,417		21,167,074	2,175,975	2.09	33,140,780	692,642
2018	21.59	183,346	39,584	6.87	179,699,685	12,345,368		19,677,526	2,022,850	2.09	35,266,431	737,068
_		COKE (1469	?)		AUGER (1015	5)	ANTH	RACITE CO-GE	N (1021)	BIT	UMINOUS CO-GET	۷ (1023)
	LOSS	DEVELOPED	LOSS COST	LOSS	DEVELOPED	LOSS COST	LOSS	DEVELOPED	LOSS COST	LOSS	DEVELOPED	LOSS COST
YEAR	<u>COST</u>	PAYROLL	<u>PREMIUM</u>	<u>COST</u>	PAYROLL	<u>PREMIUM</u>	<u>COST</u>	<u>PAYROLL</u>	<u>PREMIUM</u>	<u>COST</u>	PAYROLL	<u>PREMIUM</u>
2008	3.57	9,761,146	348,473	11.21	2,488,558	278,967	4.86	7,958,335	386,775	1.37	8,468,561	116,019
2009	3.57	5,173,552	184,696	11.21	926,163	103,823	4.86	8,004,644	389,026	1.37	7,866,413	107,770
2010	3.57	5,435,658	194,053	11.21	806,696	90,431	4.86	8,481,228	412,188	1.37	8,732,701	119,638
2011	3.57	3,599,086	128,487	11.21	1,176,255	131,858	4.86	11,720,035	569,594	1.37	9,102,411	124,703
2012	3.57	5,738,105	204,850	11.21	808,208	90,600	4.86	10,273,004	499,268	1.37	9,047,745	123,954
2013	3.57	4,791,910	171,071	11.21	1,025,399	114,947	4.86	8,342,651	405,453	1.37	10,355,884	141,876
2014	3.57	4,464,398	159,379	11.21	806,976	90,462	4.86	9,060,883	440,359	1.37	11,721,184	160,580
2015	3.57	4,340,376	154,951	11.21	582,619	65,312	4.86	10,469,089	508,798	1.37	11,748,205	160,950
2016	3.57	4,435,066	158,332	11.21	372,496	41,757	4.86	8,994,602	437,138	1.37	11,327,552	155,187
2017	3.57	4,566,113	163,010	11.21	449,009	50,334	4.86	8,819,700	428,637	1.37	11,435,057	156,660
2018	3.57	4,456,795	159,108	11.21	560,126	62,790	4.86	11,591,488	563,346	1.37	11,996,610	164,354
	ANTH	RACITE PREP PLA	ANT (1025)	BITU	minous prep pla	NT (1027)	_					TOTAL
	LOSS	DEVELOPED	LOSS COST	LOSS	DEVELOPED	LOSS COST					DEVELOPED	LOSS COST
<u>YEAR</u>	<u>COST</u>	PAYROLL	<u>PREMIUM</u>	<u>COST</u>	<u>PAYROLL</u>	<u>PREMIUM</u>					<u>PAYROLL</u>	<u>PREMIUM</u>
2008	4.53	6,390,767	289,502	2.81	21,250,256	597,132					249,817,108	12,396,420
2009	4.53	6,749,748	305,764	2.81	19,828,012	557,167					229,462,394	11,684,524
2010	4.53	5,762,086	261,022	2.81	26,313,130	739,399					269,231,509	13,510,619
2011	4.53	7,236,583	327,817	2.81	35,155,068	987,857					324,841,755	16,535,220
2012	4.53	8,671,140	392,803	2.81	34,211,729	961,350	)				326,146,817	17,230,534
2013	4.53	8,265,665	374,435	2.81	34,253,697	962,529					300,963,743	16,100,116
2014	4.53	8,234,771	373,035	2.81	43,520,040	1,222,913					423,814,574	24,369,728
2015	4.53	7,606,274	344,564	2.81	33,564,176	943,153	}				350,172,362	20,448,272
2016	4.53	7,018,927	317,957	2.81	23,689,882	665,686					254,559,392	14,771,801
2017	4.53	7,746,154	350,901	2.81	28,816,678	809,749					289,193,784	16,753,814
2018	4.53	9,643,085	436,832	2.81	32,053,553	900,705	j				305,128,645	17,432,005

Payroll - Exhibit X-D, pages 1, 2, 3, 4 and 5; Loss Costs - Exhibit X-B Page 2

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# Coal Mine Compensation Rating Bureau Traumatic & OD Loss costs Approved Effective April 1, 2019

CLASS DESCRIPTION	CLASS CODE	CURRENT MANUAL LOSS COST	CLASS CODE	CURRENT MANUAL LOSS COST	CLASS <u>CODE</u>	CURRENT MANUAL LOSS COST
<u>BESCRIPTION</u>		UMATIC		ATE O D		RAL O D
UNDERGROUND Anthracite Bituminous	1010 1001	\$21.59 \$6.87	1011 1002	\$10.30 \$0.50	0160 0158	\$10.02 \$0.58
SURFACE Anthracite Bituminous	1012 1014	\$10.28 \$2.09	1016 1013	\$1.36 \$0.20	0153 0156	\$2.13 \$0.89
COKE	1469	\$3.57	1017	\$0.08	0154	\$0.10
AUGER	1015	\$11.21	1019	\$0.18	0157	\$0.43
CO-GEN Anthracite Bituminous	1021 1023	\$4.86 \$1.37	1022 1024	\$0.27 \$0.25	0181 0182	\$0.38 \$0.31
PREP PLANT Anthracite Bituminous	1025 1027	\$4.53 \$2.81	1026 1028	\$2.47 \$0.13	0183 0184	\$0.90 \$0.33
CLASS <u>DESCRIPTION</u>	CLASS <u>CODE</u> TRA	UNLOADED APPROVED LOSS COST	CLASS <u>CODE</u> <b>ST</b>	UNLOADED APPROVED LOSS COST ATE O D	CLASS <u>Code</u> Fede	UNLOADED APPROVED LOSS COST ERAL O D
UNDERGROUND Anthracite Bituminous	1010 1001	\$21.08 \$6.59	1011 1002	\$10.30 \$0.50	0160 0158	\$10.02 \$0.58
SURFACE Anthracite Bituminous	1012 1014	\$10.10 \$2.04	1016 1013	\$1.36 \$0.20	0153 0156	\$2.13 \$0.89
COKE	1469	\$3.49	1017	\$0.08	0154	\$0.10
AUGER	1015	\$10.96	1019	\$0.18	0157	\$0.43
CO-GEN Anthracite Bituminous	1021 1023	\$4.76 \$1.33	1022 1024	\$0.27 \$0.25	0181 0182	\$0.38 \$0.31
PREP PLANT Anthracite Bituminous	1025 1027	\$4.44 \$2.75	1026 1028	\$2.47 \$0.13	0183 0184	\$0.90 \$0.33

Source: Current Manual Loss Costs from Exhibit I-A-M approved filing effective April 1, 2019
Unloaded Approved Loss Costs from Exhibit I-A-UL approved filing effective April 1, 2019

# Coal Mine Compensation Rating Bureau Adjustments from 2019 Filing

Exhibit X-B Page 3

## Section 1 Catastrophic Loss Cost (2019)

Underground

Anthracite 0.17 Bituminous 0.17

Auger 0.07 (1/3 Underground, 2/3 Surface)

Other Classes 0.02

## Section 2 Load Factors (2019)

Experience Rating	1.0000
Merit Rating (Exh XIV-A, page 1)	1.0002
Safety Committee (Exh. XIV-B)	1.0158
'	1.0160
Small Business Advocate (XI-A)	1.0001

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5.462100

# COAL MINE COMPENSATION RATING BUREAU FEDERAL OD PAYROLL

ANTHRACITE	UNDERGROUND	) (1010)				
	State OD				Federal OD	Payroll
	Developed	Federal Exempt	Partnership	Development	Payroll	Per Million
	Payroll	Reported Payroll	Reported Payroll	Factor	(1) + [(3)-(2)]*(4)	(5)/1000000
<u>Year</u>	(1)	(2)	<u>(3)</u>	<u>(4)</u>	<u>(5)</u>	<u>(6)</u>
2008	2,136,713	0	0	1.0000	2,136,713	2.136713
2009	1,335,866	0	0	1.0000	1,335,866	1.335866
2010	1,299,588	0	0	1.0000	1,299,588	1.299588
2011	1,257,944	0	0	1.0000	1,257,944	1.257944
2012	1,029,260	0	0	1.0000	1,029,260	1.029260
2013	381,876	0	0	1.0000	381,876	0.381876
2014	258,809	0	0	1.0000	258,809	0.258809
2015	254,336	0	0	1.0000	254,336	0.254336
2016	163,760	0	0	1.0000	163,760	0.163760
2017	252,383	0	0	1.0000	252,383	0.252383
2018	183,346	0	0	1.0000	183,346	0.183346
BITUMINOUS	UNDERGROUND	0 (1001)				
	State OD				Federal OD	Payroll
	Developed	Federal Exempt	Partnership	Development	Payroll	Per Million
	Payroll	Reported Payroll	Reported Payroll	Factor	(1) + [(3)-(2)]*(4)	(5)/1000000
<u>Year</u>	(1)	<u>(2)</u>	<u>(3)</u>	(4)	<u>(5)</u>	<u>(6)</u>
2008	101,353,977	0	0	1.0000	101,353,977	101.353977
2009	101,348,140	0	0	1.0000	101,348,140	101.348140
2010	125,393,576	0	0	1.0000	125,393,576	125.393576
2011	148,485,709	0	0	1.0000	148,485,709	148.485709
2012	153,618,908	0	0	1.0000	153,618,908	153.618908
2013 2014	149,747,092	4,600,839 87,798,755	0	1.0000 1.0000	145,146,253	145.146253
2014	271,230,707	75,884,185	0	1.0000	183,431,952 140,570,275	183.431952 140.570275
2015	216,454,460 148,556,407	30,010,930	0	1.0000	118,545,477	118.545477
2016	172,800,836	30,010,730	0	1.0000	172,800,836	172.800836
2017	179,699,685	0	46,618	1.0058	172,800,838	179.746573
ANTHRACITE	SURFACE (1012) State OD Developed	Federal Exempt	Partnership	Development	Federal OD Payroll	Payroll Per Million
	State OD Developed Payroll	Federal Exempt Reported Payroll	Reported Payroll	Factor	Payroll (1) + [(3)-(2)]*(4)	Per Million (5)/1000000
<u>Year</u>	State OD Developed Payroll (1)	Federal Exempt Reported Payroll (2)	Reported Payroll (3)	Factor (4)	Payroll (1) + [(3)-(2)]*(4) <u>(5)</u>	Per Million (5)/1000000 (6)
<u>Year</u> 2008	State OD Developed Payroll (1) 16,954,313	Federal Exempt Reported Payroll (2) 1,047,741	Reported Payroll (3) 313,659	Factor ( <u>4)</u> 1.0000	Payroll (1) + [(3)-(2)]*(4)	Per Million (5)/1000000 (6) 16.220231
<u>Year</u> 2008 2009	State OD Developed Payroll (1) 16,954,313 16,445,462	Federal Exempt Reported Payroll (2) 1,047,741 903,752	Reported Payroll (3) 313,659 351,818	Factor (4) 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 16,220,231 15,893,528	Per Million (5)/1000000 (6) 16.220231 15.893528
<u>Year</u> 2008 2009 2010	State OD Developed Payroll (1) 16,954,313 16,445,462 14,295,288	Federal Exempt Reported Payroll (2) 1,047,741 903,752 1,205,978	Reported Payroll (3) 313,659 351,818 229,875	Factor (4) 1.0000 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 16,220,231 15,893,528 13,319,185	Per Million (5)/1000000 (6) 16.220231 15.893528 13.319185
<u>Year</u> 2008 2009 2010 2011	State OD Developed Payroll [1] 16,954,313 16,445,462 14,295,288 21,034,600	Federal Exempt Reported Payroll (2) 1,047,741 903,752 1,205,978 1,929,891	Reported Payroll (3) 313,659 351,818 229,875 402,719	Factor (4) 1.0000 1.0000 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 16,220,231 15,893,528 13,319,185 19,507,428	Per Million (5)/1000000 (6) 16.220231 15.893528 13.319185 19.507428
Year 2008 2009 2010 2011 2012	State OD Developed Payroll [1] 16,954,313 16,445,462 14,295,288 21,034,600 26,295,907	Federal Exempt Reported Payroll (2) 1,047,741 903,752 1,205,978 1,929,891 1,973,449	Reported Payroll (3) 313,659 351,818 229,875 402,719 412,253	Factor (4) 1.0000 1.0000 1.0000 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 16,220,231 15,893,528 13,319,185 19,507,428 24,734,711	Per Million (5)/1000000 (6) 16.220231 15.893528 13.319185 19.507428 24.734711
Year 2008 2009 2010 2011 2012 2013	State OD Developed Payroll [1] 16,954,313 16,445,462 14,295,288 21,034,600 26,295,907 22,449,824	Federal Exempt Reported Payroll (2) 1,047,741 903,752 1,205,978 1,929,891 1,973,449 2,307,223	Reported Payroll (3) 313,659 351,818 229,875 402,719 412,253 577,413	Factor (4)  1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 16,220,231 15,893,528 13,319,185 19,507,428 24,734,711 20,720,014	Per Million (5)/1000000 (6) 16.220231 15.893528 13.319185 19.507428 24.734711 20.720014
Year 2008 2009 2010 2011 2012 2013 2014	State OD Developed Payroll [1] 16,954,313 16,445,462 14,295,288 21,034,600 26,295,907 22,449,824 20,466,075	Federal Exempt Reported Payroll (2) 1,047,741 903,752 1,205,978 1,929,891 1,973,449 2,307,223 2,210,807	Reported Payroll (3) 313,659 351,818 229,875 402,719 412,253 577,413 656,071	Factor (4)  1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 16,220,231 15,893,528 13,319,185 19,507,428 24,734,711 20,720,014 18,911,339	Per Million (5)/1000000 (6) 16.220231 15.893528 13.319185 19.507428 24.734711 20.720014 18.911339
Year 2008 2009 2010 2011 2012 2013 2014 2015	State OD Developed Payroll [1] 16,954,313 16,445,462 14,295,288 21,034,600 26,295,907 22,449,824 20,466,075 24,218,779	Federal Exempt Reported Payroll (2) 1,047,741 903,752 1,205,978 1,929,891 1,973,449 2,307,223 2,210,807 2,669,091	Reported Payroll (3) 313,659 351,818 229,875 402,719 412,253 577,413 656,071 684,662	Factor (4)  1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 16,220,231 15,893,528 13,319,185 19,507,428 24,734,711 20,720,014 18,911,339 22,234,350	Per Million (5)/1000000 (6) 16.220231 15.893528 13.319185 19.507428 24.734711 20.720014 18.911339 22.234350
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016	State OD Developed Payroll (11) 16,954,313 16,445,462 14,295,288 21,034,600 26,295,907 22,449,824 20,466,075 24,218,779 20,873,611	Federal Exempt Reported Payroll (2) 1,047,741 903,752 1,205,978 1,929,891 1,973,449 2,307,223 2,210,807 2,669,091 2,378,155	Reported Payroll (3) 313,659 351,818 229,875 402,719 412,253 577,413 656,071 684,662 761,651	Factor (4)  1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 16,220,231 15,893,528 13,319,185 19,507,428 24,734,711 20,720,014 18,911,339 22,234,350 19,257,107	Per Million (5)/1000000 (6) 16.220231 15.893528 13.319185 19.507428 24.734711 20.720014 18.911339 22.234350 19.257107
Year 2008 2009 2010 2011 2012 2013 2014 2015	State OD Developed Payroll [1] 16,954,313 16,445,462 14,295,288 21,034,600 26,295,907 22,449,824 20,466,075 24,218,779	Federal Exempt Reported Payroll (2) 1,047,741 903,752 1,205,978 1,929,891 1,973,449 2,307,223 2,210,807 2,669,091	Reported Payroll (3) 313,659 351,818 229,875 402,719 412,253 577,413 656,071 684,662	Factor (4)  1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 16,220,231 15,893,528 13,319,185 19,507,428 24,734,711 20,720,014 18,911,339 22,234,350	Per Million (5)/1000000 (6) 16.220231 15.893528 13.319185 19.507428 24.734711 20.720014 18.911339 22.234350
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018	State OD Developed Payroll (1) 16,954,313 16,445,462 14,295,288 21,034,600 26,295,907 22,449,824 20,466,075 24,218,779 20,873,611 21,167,074 19,677,526	Federal Exempt Reported Payroll (2) 1,047,741 903,752 1,205,978 1,929,891 1,973,449 2,307,223 2,210,807 2,669,091 2,378,155 2,801,185 1,971,490	Reported Payroll (3) 313,659 351,818 229,875 402,719 412,253 577,413 656,071 684,662 761,651 728,745	Factor (4)  1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 16,220,231 15,893,528 13,319,185 19,507,428 24,734,711 20,720,014 18,911,339 22,234,350 19,257,107 19,094,634 18,332,737	Per Million (5)/1000000 (6) 16.220231 15.893528 13.319185 19.507428 24.734711 20.720014 18.911339 22.234350 19.257107 19.094634 18.332737
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018	State OD Developed Payroll (1) 16,954,313 16,445,462 14,295,288 21,034,600 26,295,907 22,449,824 20,466,075 24,218,779 20,873,611 21,167,074 19,677,526	Federal Exempt Reported Payroll (2) 1,047,741 903,752 1,205,978 1,929,891 1,973,449 2,307,223 2,210,807 2,669,091 2,378,155 2,801,185 1,971,490	Reported Payroll (3) 313,659 351,818 229,875 402,719 412,253 577,413 656,071 684,662 761,651 728,745 637,771	Factor (4)  1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 16,220,231 15,893,528 13,319,185 19,507,428 24,734,711 20,720,014 18,911,339 22,234,350 19,257,107 19,094,634 18,332,737  Federal OD	Per Million (5)/1000000 (6) 16.220231 15.893528 13.319185 19.507428 24.734711 20.720014 18.911339 22.234350 19.257107 19.094634 18.332737
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018	State OD Developed Payroll (1) 16,954,313 16,445,462 14,295,288 21,034,600 26,295,907 22,449,824 20,466,075 24,218,779 20,873,611 21,167,074 19,677,526	Federal Exempt Reported Payroll (2) 1,047,741 903,752 1,205,978 1,929,891 1,973,449 2,307,223 2,210,807 2,669,091 2,378,155 2,801,185 1,971,490	Reported Payroll (3) 313,659 351,818 229,875 402,719 412,253 577,413 656,071 684,662 761,651 728,745	Factor (4)  1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 16,220,231 15,893,528 13,319,185 19,507,428 24,734,711 20,720,014 18,911,339 22,234,350 19,257,107 19,094,634 18,332,737	Per Million (5)/1000000 (6) 16.220231 15.893528 13.319185 19.507428 24.734711 20.720014 18.911339 22.234350 19.257107 19.094634 18.332737
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018	State OD Developed Payroll (1) 16,954,313 16,445,462 14,295,288 21,034,600 26,295,907 22,449,824 20,466,075 24,218,779 20,873,611 21,167,074 19,677,526	Federal Exempt Reported Payroll (2) 1,047,741 903,752 1,205,978 1,929,891 1,973,449 2,307,223 2,210,807 2,669,091 2,378,155 2,801,185 1,971,490	Reported Payroll (3) 313,659 351,818 229,875 402,719 412,253 577,413 656,071 684,662 761,651 728,745 637,771  Partnership	Factor (4)  1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 16,220,231 15,893,528 13,319,185 19,507,428 24,734,711 20,720,014 18,911,339 22,234,350 19,257,107 19,094,634 18,332,737  Federal OD Payroll	Per Million (5)/1000000 (6) 16.220231 15.893528 13.319185 19.507428 24.734711 20.720011 18.911339 22.234350 19.257107 19.094634 18.332737 Payroll Per Million
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018	State OD Developed Payroll (1) 16,954,313 16,445,462 14,295,288 21,034,600 26,295,907 22,449,824 20,466,075 24,218,779 20,873,611 21,167,074 19,677,526 SSURFACE (1014) State OD Developed Payroll	Federal Exempt Reported Payroll (2) 1,047,741 903,752 1,205,978 1,929,891 1,973,449 2,307,223 2,210,807 2,669,091 2,378,155 2,801,185 1,971,490 Federal Exempt Reported Payroll	Reported Payroll (3) 313,659 351,818 229,875 402,719 412,253 577,413 656,071 684,662 761,651 728,745 637,771  Partnership Reported Payroll	Factor (4)  1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 16,220,231 15,893,528 13,319,185 19,507,428 24,734,711 20,720,014 18,911,339 22,234,350 19,257,107 19,094,634 18,332,737  Federal OD Payroll (1) + [(3)-(2)]*(4)	Per Million (5)/1000000 (6) 16.220231 15.893528 13.319185 19.507428 24.734711 20.720014 18.911339 22.234350 19.257107 19.094634 18.332737 Payroll Per Million (5)/1000000
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018  BITUMINOUS	State OD Developed Payroll (1) 16,954,313 16,445,462 14,295,288 21,034,600 26,295,907 22,449,824 20,466,075 24,218,779 20,873,611 21,167,074 19,677,526 SSURFACE (1014) State OD Developed Payroll (1)	Federal Exempt Reported Payroll (2) 1,047,741 903,752 1,205,978 1,929,891 1,973,449 2,307,223 2,210,807 2,669,091 2,378,155 2,801,185 1,971,490  Federal Exempt Reported Payroll (2)	Reported Payroll (3) 313,659 351,818 229,875 402,719 412,253 577,413 656,071 684,662 761,651 728,745 637,771  Partnership Reported Payroll (3)	Factor (4)  1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4)	Per Million (5)/1000000 (6) 16.220231 15.893528 13.319185 19.507428 24.734711 20.720014 18.911339 22.234350 19.257107 19.094634 18.332737 Payroll Per Million (5)/1000000 (6)
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 BITUMINOUS	State OD Developed Payroll (11) 16,954,313 16,445,462 14,295,288 21,034,600 26,295,907 22,449,824 20,466,075 24,218,779 20,873,611 21,167,074 19,677,526 S SURFACE (1014) State OD Developed Payroll (11) 73,054,482	Federal Exempt Reported Payroll (2) 1,047,741 903,752 1,205,978 1,929,891 1,973,449 2,307,223 2,210,807 2,669,091 2,378,155 2,801,185 1,971,490  Federal Exempt Reported Payroll (2) 0	Reported Payroll (3) 313,659 351,818 229,875 402,719 412,253 577,413 656,071 684,662 761,651 728,745 637,771  Partnership Reported Payroll (3) 1,546,749	Factor (4)  1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 16,220,231 15,893,528 13,319,185 19,507,428 24,734,711 20,720,014 18,911,339 22,234,350 19,257,107 19,094,634 18,332,737  Federal OD Payroll (1) + [(3)-(2)]*(4) (5) 74,601,231	Per Million (5)/1000000 (6) 16.220231 15.893528 13.319185 19.507428 24.734711 20.720014 18.911339 22.234350 19.257107 19.094634 18.332737 Payroll Per Million (5)/1000000 (6) 74.601231
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018  BITUMINOUS  Year 2008 2009	State OD Developed Payroll (11) 16,954,313 16,445,462 14,295,288 21,034,600 26,295,907 22,449,824 20,466,075 24,218,779 20,873,611 21,167,074 19,677,526 SSURFACE (1014) State OD Developed Payroll (11) 73,054,482 61,784,394	Federal Exempt Reported Payroll (2) 1,047,741 903,752 1,205,978 1,929,891 1,973,449 2,307,223 2,210,807 2,669,091 2,378,155 2,801,185 1,971,490  Federal Exempt Reported Payroll (2) 0 0	Reported Payroll (3) 313,659 351,818 229,875 402,719 412,253 577,413 656,071 684,662 761,651 728,745 637,771  Partnership Reported Payroll (3) 1,546,749 1,522,301	Factor (4)  1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 16,220,231 15,893,528 13,319,185 19,507,428 24,734,711 20,720,014 18,911,339 22,234,350 19,257,107 19,094,634 18,332,737  Federal OD Payroll (1) + [(3)-(2)]*(4) (5) 74,601,231 63,306,695	Per Million (5)/1000000 (6) 16.220231 15.893528 13.319185 19.507428 24.734711 20.720014 18.911339 22.234350 19.257107 19.094634 18.332737 Payroll Per Million (5)/1000000 (6) 74.601231 63.306695
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018  BITUMINOUS  Year 2008 2009 2010	State OD Developed Payroll (11) 16,954,313 16,445,462 14,295,288 21,034,600 26,295,907 22,449,824 20,466,075 24,218,779 20,873,611 21,167,074 19,677,526 SSURFACE (1014) State OD Developed Payroll (11) 73,054,482 61,784,394 72,711,558	Federal Exempt Reported Payroll (2) 1,047,741 903,752 1,205,978 1,929,891 1,973,449 2,307,223 2,210,807 2,669,091 2,378,155 2,801,185 1,971,490  Federal Exempt Reported Payroll (2) 0 0 0	Reported Payroll  (3)  313,659  351,818  229,875  402,719  412,253  577,413  656,071  684,662  761,651  728,745  637,771   Partnership  Reported Payroll  (3)  1,546,749  1,522,301  1,543,619	Factor (4)  1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 16,220,231 15,893,528 13,319,185 19,507,428 24,734,711 20,720,014 18,911,339 22,234,350 19,257,107 19,094,634 18,332,737  Federal OD Payroll (1) + [(3)-(2)]*(4) (5) 74,601,231 63,306,695 74,255,177	Per Million (5)/1000000 (6) 16.220231 15.893528 13.319185 19.507428 24.734711 20.720014 18.911339 22.234350 19.257107 19.094634 18.332737 Payroll Per Million (5)/1000000 [6] 74.601231 63.306695 74.255177
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 BITUMINOUS  Year 2008 2009 2010 2011	State OD Developed Payroll (11) 16,954,313 16,445,462 14,295,288 21,034,600 26,295,907 22,449,824 20,466,075 24,218,779 20,873,611 21,167,074 19,677,526 SSURFACE (1014) State OD Developed Payroll (11) 73,054,482 61,784,394 72,711,558 86,074,064	Federal Exempt Reported Payroll (2) 1,047,741 903,752 1,205,978 1,929,891 1,973,449 2,307,223 2,210,807 2,669,091 2,378,155 2,801,185 1,971,490  Federal Exempt Reported Payroll (2) 0 0 0 0	Reported Payroll  (3)  313,659  351,818  229,875  402,719  412,253  577,413  656,071  684,662  761,651  728,745  637,771   Partnership  Reported Payroll  (3)  1,546,749  1,522,301  1,543,619  1,656,442	Factor (4)  1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 16,220,231 15,893,528 13,319,185 19,507,428 24,734,711 20,720,014 18,911,339 22,234,350 19,257,107 19,094,634 18,332,737  Federal OD Payroll (1) + [(3)-(2)]*(4) (5) 74,601,231 63,306,695 74,255,177 87,730,506	Per Million (5)/1000000 (6) 16.220231 15.893528 13.319185 19.507428 24.734711 20.720014 18.911339 22.234350 19.257107 19.094634 18.332737 Payroll Per Million (5)/1000000 (6) 74.601231 63.306695 74.255177 87.730506
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 BITUMINOUS  Year 2008 2009 2010 2011 2012 2013 2014	State OD Developed Payroll (11) 16,954,313 16,445,462 14,295,288 21,034,600 26,295,907 22,449,824 20,466,075 24,218,779 20,873,611 21,167,074 19,677,526 SSURFACE (1014) State OD Developed Payroll (11) 73,054,482 61,784,394 72,711,558 86,074,064 76,452,811	Federal Exempt Reported Payroll (2) 1,047,741 903,752 1,205,978 1,929,891 1,973,449 2,307,223 2,210,807 2,669,091 2,378,155 2,801,185 1,971,490  Federal Exempt Reported Payroll (2) 0 0 0 0 0	Reported Payroll  (3)  313,659  351,818  229,875  402,719  412,253  577,413  656,071  684,662  761,651  728,745  637,771   Partnership  Reported Payroll  (3)  1,546,749  1,522,301  1,543,619  1,656,442  1,437,689	Factor (4)  1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 16,220,231 15,893,528 13,319,185 19,507,428 24,734,711 20,720,014 18,911,339 22,234,350 19,257,107 19,094,634 18,332,737  Federal OD Payroll (1) + [(3)-(2)]*(4) (5) 74,601,231 63,306,695 74,255,177 87,730,506 77,890,500	Per Million (5)/1000000 (6) 16.220231 15.893528 13.319185 19.507428 24.734711 20.720014 18.911339 22.234350 19.257107 19.094634 18.332737 Payroll Per Million (5)/1000000 (6) 74.601231 63.306695 74.255177 87.730506 77.890500
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018  BITUMINOUS  Year 2008 2009 2010 2011 2012 2013 2014 2015	State OD Developed Payroll (11) 16,954,313 16,445,462 14,295,288 21,034,600 26,295,907 22,449,824 20,466,075 24,218,779 20,873,611 21,167,074 19,677,526 SSURFACE (1014) State OD Developed Payroll (11) 73,054,482 61,784,394 72,711,558 86,074,064 76,452,811 61,349,745	Federal Exempt Reported Payroll (2) 1,047,741 903,752 1,205,978 1,929,891 1,973,449 2,307,223 2,210,807 2,669,091 2,378,155 2,801,185 1,971,490  Federal Exempt Reported Payroll (2) 0 0 0 0 0 0 0 0 0 0	Reported Payroll  (3)  313,659  351,818  229,875  402,719  412,253  577,413  656,071  684,662  761,651  728,745  637,771   Partnership  Reported Payroll  (3)  1,546,749  1,522,301  1,543,619  1,656,442  1,437,689  1,368,316	Factor (4)  1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 16,220,231 15,893,528 13,319,185 19,507,428 24,734,711 20,720,014 18,911,339 22,234,350 19,257,107 19,094,634 18,332,737  Federal OD Payroll (1) + [(3)-(2)]*(4) (5) 74,601,231 63,306,695 74,255,177 87,730,506 77,890,500 62,718,061	Per Million (5)/1000000 (6) 16.220231 15.893528 13.319185 19.507428 24.734711 20.720014 18.911339 22.234350 19.257107 19.094634 18.332737 Payroll Per Million (5)/1000000 (6) 74.601231 63.304695 74.255177 87.730506 77.890500 62.718061
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018  BITUMINOUS  Year 2008 2009 2010 2011 2012 2013 2014 2015 2016	State OD Developed Payroll (11) 16,954,313 16,445,462 14,295,288 21,034,600 26,295,907 22,449,824 20,466,075 24,218,779 20,873,611 21,167,074 19,677,526 SSURFACE (1014) State OD Developed Payroll (11) 73,054,482 61,784,394 72,711,558 86,074,064 76,452,811 61,349,745 54,050,731 40,934,048 29,127,089	Federal Exempt Reported Payroll (2) 1,047,741 903,752 1,205,978 1,929,891 1,973,449 2,307,223 2,210,807 2,669,091 2,378,155 2,801,185 1,971,490  Federal Exempt Reported Payroll (2) 0 0 0 0 0 0 0 0 0 0 0 0	Reported Payroll  (3)  313,659 351,818 229,875 402,719 412,253 577,413 656,071 684,662 761,651 728,745 637,771  Partnership Reported Payroll (3) 1,546,749 1,522,301 1,543,619 1,656,442 1,437,689 1,368,316 1,317,884 1,066,044 1,004,129	Factor (4)  1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 16,220,231 15,893,528 13,319,185 19,507,428 24,734,711 20,720,014 18,911,339 22,234,350 19,257,107 19,094,634 18,332,737  Federal OD Payroll (1) + [(3)-(2)]*(4) (5) 74,601,231 63,306,695 74,255,177 87,730,506 77,890,500 62,718,061 55,368,615 42,000,092 30,131,218	Per Million (5)/1000000 (6) 16.220231 15.893528 13.319185 19.507428 24.734711 20.720014 18.911339 22.234350 19.257107 19.094634 18.332737 Payroll Per Million (5)/1000000 (6) 74.601231 63.306695 74.255177 87.730506 77.890500 62.718061 55.368615 42.000092 30.131218
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018  BITUMINOUS  Year 2008 2009 2010 2011 2012 2013 2014 2015	State OD Developed Payroll (11) 16,954,313 16,445,462 14,295,288 21,034,600 26,295,907 22,449,824 20,466,075 24,218,779 20,873,611 21,167,074 19,677,526 S SURFACE (1014) State OD Developed Payroll (11) 73,054,482 61,784,394 72,711,558 86,074,064 76,452,811 61,349,745 54,050,731 40,934,048	Federal Exempt Reported Payroll (2) 1,047,741 903,752 1,205,978 1,929,891 1,973,449 2,307,223 2,210,807 2,669,091 2,378,155 2,801,185 1,971,490  Federal Exempt Reported Payroll (2) 0 0 0 0 0 0 0 0 0 0	Reported Payroll  (3)  313,659 351,818 229,875 402,719 412,253 577,413 656,071 684,662 761,651 728,745 637,771  Partnership Reported Payroll (3) 1,546,749 1,522,301 1,543,619 1,656,442 1,437,689 1,368,316 1,317,884 1,066,044	Factor (4)  1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 16,220,231 15,893,528 13,319,185 19,507,428 24,734,711 20,720,014 18,911,339 22,234,350 19,257,107 19,094,634 18,332,737  Federal OD Payroll (1) + [(3)-(2)]*(4) (5) 74,601,231 63,306,695 74,255,177 87,730,506 77,890,500 62,718,061 55,368,615 42,000,092	Per Million (5)/1000000 (6) 16.220231 15.893528 13.319185 19.507428 24.734711 20.720014 18.911339 22.234350 19.257107 19.094634 18.332737 Payroll Per Million (5)/1000000 (6) 74.601231 63.306695 74.255177 87.730506 77.890500 62.718061 55.368615 42.000092

Source: Anthracite Underground (1010) - Exhibit X-C, page 4
Bituminous Underground (1001) - Exhibit X-C, page 4
Anthracite Surface (1012) - Exhibit X-D, page 2
Bituminous Surface (1014) - Exhibit X-D, page 2

# COAL MINE COMPENSATION RATING BUREAU Federal OD Payrolls

COKE (1469)						
, ,	State OD				Federal OD	Payroll
	Developed	Federal Exempt	Partnership	Development	Payroll	Per Million
	Payroll	Reported Payroll	Reported Payroll	Factor	(1) + [(3)-(2)]*(4)	(5)/1000000
<u>Year</u>	(1)	(2)	(3)	(4)	<u>(5)</u>	<u>(6)</u>
2008 2009	9,761,146 5,173,552	0	0	1.0000 1.0000	9,761,146 5,173,552	9.761146 5.173552
2010	5,435,658	0	0	1.0000	5,435,658	5.435658
2011	3,599,086	0	0	1.0000	3,599,086	3.599086
2012	5,738,105	0	0	1.0000	5,738,105	5.738105
2013	4,791,910	0	0	1.0000	4,791,910	4.791910
2014	4,464,398	0	0	1.0000	4,464,398	4.464398
2015	4,340,376	0	0	1.0000	4,340,376	4.340376
2016	4,435,066	0	0	1.0000	4,435,066	4.435066
2017	4,566,113	0	0	1.0000	4,566,113	4.566113
2018	4,456,795	0	0	1.0186	4,456,795	4.456795
AUGER (1015	5)					
	State OD				Federal OD	Payroll
	Developed	Federal Exempt	Partnership	Development	Payroll	Per Million
	Payroll	Reported Payroll	Reported Payroll	Factor	(1) + [(3)-(2)]*(4)	(5)/1000000
<u>Year</u>	(1)	(2)	(3)	<u>(4)</u> 1.0000	<u>(5)</u>	<u>(6)</u>
2008 2009	2,488,558 926,163	0	18,200 20,800	1.0000	2,506,758 946,963	2.506758 0.946963
2010	806,696	0	20,800	1.0000	827,496	0.827496
2011	1,176,255	0	0	1.0000	1,176,255	1.176255
2012	808,208	0	0	1.0000	808,208	0.808208
2013	1,025,399	0	21,548	1.0000	1,046,947	1.046947
2014	806,976	0	54,614	1.0000	861,590	0.861590
2015	582,619	0	72,147	1.0000	654,766	0.654766
2016	372,496	0	20,280	1.0000	392,776	0.392776
2017	449,009	0	117,315	1.0000	566,324	0.566324
2018	560,126	0	0	1.0000	560,126	0.560126
ANTHRACITE	CO-GEN (1021)					
ANTHRACITE	State OD		Derrto erabio	Davalanment	Federal OD	Payroll
ANTHRACITE	State OD Developed	Federal Exempt	Partnership	Development	Payroll	Per Million
	State OD Developed Payroll	Federal Exempt Reported Payroll	Reported Payroll	Factor	Payroll (1) + [(3)-(2)]*(4)	Per Million (5)/1000000
<u>Year</u>	State OD Developed Payroll (1)	Federal Exempt Reported Payroll (2)	Reported Payroll (3)	Factor (4)	Payroll (1) + [(3)-(2)]*(4) <u>(5)</u>	Per Million (5)/1000000 (6)
	State OD Developed Payroll	Federal Exempt Reported Payroll	Reported Payroll	Factor	Payroll (1) + [(3)-(2)]*(4)	Per Million (5)/1000000
<u>Year</u> 2008	State OD Developed Payroll (1) 7,958,335	Federal Exempt Reported Payroll (2) 477,298	Reported Payroll (3) 40,363	Factor <u>(4)</u> 1.0000	Payroll (1) + [(3)-(2)]*(4)	Per Million (5)/1000000 (6) 7.521400
<u>Year</u> 2008 2009	State OD Developed Payroll (1) 7,958,335 8,004,644	Federal Exempt Reported Payroll (2) 477,298 505,653	Reported Payroll (3) 40,363 35,744	Factor (4) 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 7,521,400 7,534,735	Per Million (5)/1000000 (6) 7.521400 7.534735
Year 2008 2009 2010 2011 2012	State OD Developed Payroll (1) 7,958,335 8,004,644 8,481,228	Federal Exempt Reported Payroll (2) 477,298 505,653 594,188 827,364 1,025,112	Reported Payroll (3) 40,363 35,744 71,008 88,971 63,920	Factor (4) 1.0000 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 7,521,400 7,534,735 7,958,048 10,981,642 9,311,812	Per Million (5)/1000000 (6) 7.521400 7.534735 7.958048
Year 2008 2009 2010 2011 2012 2013	State OD Developed Payroll (11) 7,958,335 8,004,644 8,481,228 11,720,035 10,273,004 8,342,651	Federal Exempt Reported Payroll (2) 477,298 505,653 594,188 827,364 1,025,112 792,519	Reported Payroll (3)  40,363 35,744 71,008 88,971 63,920 80,630	Factor (4)  1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 7,521,400 7,534,735 7,958,048 10,981,642 9,311,812 7,630,762	Per Million (5)/1000000 (6) 7.521400 7.534735 7.958048 10.981642 9.311812 7.630762
Year 2008 2009 2010 2011 2012 2013 2014	State OD Developed Payroll (11) 7,958,335 8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883	Federal Exempt Reported Payroll (2) 477,298 505,653 594,188 827,364 1,025,112 792,519 838,824	Reported Payroll (3)  40,363 35,744 71,008 88,971 63,920 80,630 138,839	Factor (4)  1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4)	Per Million (5)/1000000 (6) 7.521400 7.534735 7.958048 10.981642 9.311812 7.630762 8.360898
Year 2008 2009 2010 2011 2012 2013 2014 2015	State OD Developed Payroll (1) 7,958,335 8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089	Federal Exempt Reported Payroll (2) 477,298 505,653 594,188 827,364 1,025,112 792,519 838,824 1,048,903	Reported Payroll (3)  40,363 35,744 71,008 88,971 63,920 80,630 138,839 134,620	Factor (4)  1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 7,521,400 7,534,735 7,958,048 10,981,642 9,311,812 7,630,762 8,360,898 9,554,806	Per Million (5)/1000000 (6) 7.521400 7.534735 7.958048 10.981642 9.311812 7.630762 8.360898 9.554806
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016	State OD Developed Payroll (1) 7,958,335 8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602	Federal Exempt Reported Payroll (2) 477,298 505,653 594,188 827,364 1,025,112 792,519 838,824 1,048,903 1,137,185	Reported Payroll (3)  40,363 35,744 71,008 88,971 63,920 80,630 138,839 134,620 95,892	Factor (4)  1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4)	Per Million (5)/1000000 (6) 7.521400 7.534735 7.958048 10.981642 9.311812 7.630762 8.360898 9.554806 7.953309
Year 2008 2009 2010 2011 2012 2013 2014 2015	State OD Developed Payroll (1) 7,958,335 8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089	Federal Exempt Reported Payroll (2) 477,298 505,653 594,188 827,364 1,025,112 792,519 838,824 1,048,903	Reported Payroll (3)  40,363 35,744 71,008 88,971 63,920 80,630 138,839 134,620	Factor (4)  1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 7,521,400 7,534,735 7,958,048 10,981,642 9,311,812 7,630,762 8,360,898 9,554,806	Per Million (5)/1000000 (6) 7.521400 7.534735 7.958048 10.981642 9.311812 7.630762 8.360898 9.554806
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018	State OD Developed Payroll (1) 7,958,335 8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 8,819,700 11,591,488	Federal Exempt Reported Payroll (2) 477,298 505,653 594,188 827,364 1,025,112 792,519 838,824 1,048,903 1,137,185 1,121,002 1,704,620	Reported Payroll  (3)  40,363 35,744 71,008 88,971 63,920 80,630 138,839 134,620 95,892 94,860	Factor (4)  1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 7,521,400 7,534,735 7,958,048 10,981,642 9,311,812 7,630,762 8,360,898 9,554,806 7,953,309 7,793,558	Per Million (5)/1000000 (6) 7.521400 7.534735 7.958048 10.981642 9.311812 7.630762 8.360898 9.554806 7.953309 7.793558
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018	State OD Developed Payroll (1) 7,958,335 8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 8,819,700 11,591,488 CO-GEN (1023)	Federal Exempt Reported Payroll (2) 477,298 505,653 594,188 827,364 1,025,112 792,519 838,824 1,048,903 1,137,185 1,121,002 1,704,620	Reported Payroll  (3)  40,363 35,744 71,008 88,971 63,920 80,630 138,839 134,620 95,892 94,860	Factor (4)  1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4)	Per Million (5)/1000000 (6) 7.521400 7.534735 7.958048 10.981642 9.311812 7.630762 8.360898 9.554806 7.953309 7.793558 10.018416
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018	State OD Developed Payroll (1) 7,958,335 8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 8,819,700 11,591,488	Federal Exempt Reported Payroll (2) 477,298 505,653 594,188 827,364 1,025,112 792,519 838,824 1,048,903 1,137,185 1,121,002 1,704,620	Reported Payroll (3)  40,363 35,744 71,008 88,971 63,920 80,630 138,839 134,620 95,892 94,860 131,548	Factor (4)  1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 7,521,400 7,534,735 7,958,048 10,981,642 9,311,812 7,630,762 8,360,898 9,554,806 7,953,309 7,793,558 10,018,416	Per Million (5)/1000000 (6) 7.521400 7.534735 7.958048 10.981642 9.311812 7.630762 8.360898 9.554806 7.953309 7.793558 10.018416
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018	State OD Developed Payroll (1) 7,958,335 8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 8,819,700 11,591,488 CO-GEN (1023) State OD	Federal Exempt Reported Payroll (2)  477,298 505,653 594,188 827,364 1,025,112 792,519 838,824 1,048,903 1,137,185 1,121,002 1,704,620  Federal Exempt	Reported Payroll  (3)  40,363 35,744 71,008 88,971 63,920 80,630 138,839 134,620 95,892 94,860 131,548  Partnership	Factor (4)  1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 7,521,400 7,534,735 7,958,048 10,981,642 9,311,812 7,630,762 8,360,898 9,554,806 7,953,309 7,793,558 10,018,416  Federal OD Payroll	Per Million (5)/1000000 (6) 7.521400 7.534735 7.958048 10.981642 9.311812 7.630762 8.360898 9.554806 7.953309 7.793558 10.018416
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018	State OD Developed Payroll (1) 7,958,335 8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 8,819,700 11,591,488 CO-GEN (1023)	Federal Exempt Reported Payroll (2) 477,298 505,653 594,188 827,364 1,025,112 792,519 838,824 1,048,903 1,137,185 1,121,002 1,704,620	Reported Payroll (3)  40,363 35,744 71,008 88,971 63,920 80,630 138,839 134,620 95,892 94,860 131,548	Factor (4)  1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 Development Factor	Payroll (1) + [(3)-(2)]*(4) (5) 7,521,400 7,534,735 7,958,048 10,981,642 9,311,812 7,630,762 8,360,898 9,554,806 7,953,309 7,793,558 10,018,416	Per Million (5)/1000000 (6) 7.521400 7.534735 7.958048 10.981642 9.311812 7.630762 8.360898 9.554806 7.953309 7.793558 10.018416
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 BITUMINOUS	State OD Developed Payroll (1) 7,958,335 8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 8,819,700 11,591,488 CO-GEN (1023) State OD Payroll	Federal Exempt Reported Payroll (2)  477,298 505,653 594,188 827,364 1,025,112 792,519 838,824 1,048,903 1,137,185 1,121,002 1,704,620  Federal Exempt Reported Payroll	Reported Payroll  (3)  40,363 35,744 71,008 88,971 63,920 80,630 138,839 134,620 95,892 94,860 131,548  Partnership Reported Payroll	Factor (4)  1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4)	Per Million (5)/1000000 (6) 7.521400 7.534735 7.958048 10.981642 9.311812 7.630762 8.360898 9.554806 7.953309 7.793558 10.018416 Payroll Per Million (5)/1000000
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 BITUMINOUS	State OD Developed Payroll (1) 7,958,335 8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 8,819,700 11,591,488 CO-GEN (1023) State OD Payroll (1)	Federal Exempt Reported Payroll  [2]  477,298  505,653  594,188  827,364  1,025,112  792,519  838,824  1,048,903  1,137,185  1,121,002  1,704,620   Federal Exempt Reported Payroll  [2]	Reported Payroll  (3)  40,363 35,744 71,008 88,971 63,920 80,630 138,839 134,620 95,892 94,860 131,548  Partnership Reported Payroll (3)	Factor (4)  1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 Development Factor (4)	Payroll (1) + [(3)-(2)]*(4) (5) 7,521,400 7,534,735 7,958,048 10,981,642 9,311,812 7,630,762 8,360,898 9,554,806 7,953,309 7,793,558 10,018,416  Federal OD Payroll (1) + [(3)-(2)]*(4) (5) 8,481,888 7,866,413	Per Million (5)/1000000 (6) 7.521400 7.534735 7.958048 10.981642 9.311812 7.630762 8.360898 9.554806 7.953309 7.793558 10.018416 Payroll Per Million (5)/1000000
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 BITUMINOUS  Year 2008 2009 2010	State OD Developed Payroll (1) 7,958,335 8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 8,819,700 11,591,488 CO-GEN (1023) State OD Payroll (1) 8,468,561 7,866,413 8,732,701	Federal Exempt Reported Payroll (2)  477,298 505,653 594,188 827,364 1,025,112 792,519 838,824 1,048,903 1,137,185 1,121,002 1,704,620  Federal Exempt Reported Payroll (2)  0 0 0	Reported Payroll  (3)  40,363 35,744 71,008 88,971 63,920 80,630 138,839 134,620 95,892 94,860 131,548  Partnership Reported Payroll (3)  13,327 0 0	Factor (4)  1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000  Development Factor (4) 1.0000 1.0000 1.0000 1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 7,521,400 7,534,735 7,958,048 10,981,642 9,311,812 7,630,762 8,360,898 9,554,806 7,953,309 7,793,558 10,018,416  Federal OD Payroll (1) + [(3)-(2)]*(4) (5) 8,481,888 7,866,413 8,732,701	Per Million (5)/1000000 (6) 7.521400 7.534735 7.958048 10.981642 9.311812 7.630762 8.360898 9.554806 7.953309 7.793558 10.018416 Payroll Per Million (5)/1000000 (6) 8.481888 7.866413 8.732701
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018  BITUMINOUS  Year 2008 2009 2010 2011	State OD Developed Payroll (1) 7,958,335 8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 8,819,700 11,591,488 CO-GEN (1023) State OD Payroll (1) 8,468,561 7,866,413 8,732,701 9,102,411	Federal Exempt Reported Payroll  (2)  477,298  505,653  594,188  827,364  1,025,112  792,519  838,824  1,048,903  1,137,185  1,121,002  1,704,620  Federal Exempt Reported Payroll  (2)  0  0  0  0  0	Reported Payroll  (3)  40,363 35,744 71,008 88,971 63,920 80,630 138,839 134,620 95,892 94,860 131,548  Partnership Reported Payroll (3)  13,327 0 0 0	Factor (4)  1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 7,521,400 7,534,735 7,958,048 10,981,642 9,311,812 7,630,762 8,360,898 9,554,806 7,953,309 7,793,558 10,018,416  Federal OD Payroll (1) + [(3)-(2)]*(4) (5) 8,481,888 7,866,413 8,732,701 9,102,411	Per Million (5)/1000000 (6) 7.521400 7.534735 7.958048 10.981642 9.311812 7.630762 8.360898 9.554806 7.953309 7.793558 10.018416 Payroll Per Million (5)/1000000 (6) 8.481888 7.866413 8.732701 9.102411
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 BITUMINOUS  Year 2008 2009 2010 2011 2012	State OD Developed Payroll (1) 7,958,335 8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 8,819,700 11,591,488  CO-GEN (1023) State OD  Payroll (1) 8,468,561 7,866,413 8,732,701 9,102,411 9,047,745	Federal Exempt Reported Payroll  (2)  477,298  505,653  594,188  827,364  1,025,112  792,519  838,824  1,048,903  1,137,185  1,121,002  1,704,620  Federal Exempt Reported Payroll  (2)  0  0  0  0  0  0	Reported Payroll  (3)  40,363 35,744 71,008 88,971 63,920 80,630 138,839 134,620 95,892 94,860 131,548  Partnership Reported Payroll (3)  13,327 0 0 0 0	Factor (4)  1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 7,521,400 7,534,735 7,958,048 10,981,642 9,311,812 7,630,762 8,360,898 9,554,806 7,953,309 7,793,558 10,018,416  Federal OD Payroll (1) + [(3)-(2)]*(4) (5) 8,481,888 7,866,413 8,732,701 9,102,411 9,047,745	Per Million (5)/1000000 (6) 7.521400 7.534735 7.958048 10.981642 9.311812 7.630762 8.360898 9.554806 7.953309 7.793558 10.018416 Payroll Per Million (5)/1000000 (6) 8.481888 7.866413 8.732701 9.102411 9.047745
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 BITUMINOUS  Year 2008 2009 2010 2011 2012 2013	State OD Developed Payroll (1) 7,958,335 8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 8,819,700 11,591,488  CO-GEN (1023) State OD  Payroll (1) 8,468,561 7,866,413 8,732,701 9,102,411 9,047,745 10,355,884	Federal Exempt Reported Payroll (2)  477,298 505,653 594,188 827,364 1,025,112 792,519 838,824 1,048,903 1,137,185 1,121,002 1,704,620  Federal Exempt Reported Payroll (2)  0 0 0 0 0 0 0 0	Reported Payroll  (3)  40,363 35,744 71,008 88,971 63,920 80,630 138,839 134,620 95,892 94,860 131,548  Partnership Reported Payroll (3)  13,327 0 0 0 0 0	Factor (4)  1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 7,521,400 7,534,735 7,958,048 10,981,642 9,311,812 7,630,762 8,360,898 9,554,806 7,953,309 7,793,558 10,018,416  Federal OD Payroll (1) + [(3)-(2)]*(4) (5) 8,481,888 7,866,413 8,732,701 9,102,411 9,047,745 10,355,884	Per Million (5)/1000000 (6) 7.521400 7.534735 7.958048 10.981642 9.311812 7.630762 8.360898 9.554806 7.953309 7.793558 10.018416 Per Million (5)/1000000 (6) 8.481888 7.866413 8.732701 9.102411 9.047745 10.355884
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018  BITUMINOUS  Year 2008 2009 2010 2011 2012 2013 2014	State OD Developed Payroll (1) 7,958,335 8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 8,819,700 11,591,488  CO-GEN (1023) State OD  Payroll (1) 8,468,561 7,866,413 8,732,701 9,102,411 9,047,745 10,355,884 11,721,184	Federal Exempt Reported Payroll (2)  477,298 505,653 594,188 827,364 1,025,112 792,519 838,824 1,048,903 1,137,185 1,121,002 1,704,620  Federal Exempt Reported Payroll (2)  0 0 0 0 0 0 0 0 0	Reported Payroll  [3]  40,363 35,744 71,008 88,971 63,920 80,630 138,839 134,620 95,892 94,860 131,548  Partnership Reported Payroll [3]  13,327 0 0 0 0 0 0 0	Factor (4)  1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 7,521,400 7,534,735 7,958,048 10,981,642 9,311,812 7,630,762 8,360,898 9,554,806 7,953,309 7,793,558 10,018,416  Federal OD Payroll (1) + [(3)-(2)]*(4) (5) 8,481,888 7,866,413 8,732,701 9,102,411 9,047,745 10,355,884 11,721,184	Per Million (5)/1000000 (6) 7.521400 7.534735 7.958048 10.981642 9.311812 7.630762 8.360898 9.554806 7.953309 7.793558 10.018416 Per Million (5)/1000000 (6) 8.481888 7.866413 8.732701 9.102411 9.047745 10.355884 11.721184
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018  BITUMINOUS  Year 2008 2009 2010 2011 2012 2013 2014 2015	State OD Developed Payroll (1) 7,958,335 8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 8,819,700 11,591,488  CO-GEN (1023) State OD  Payroll (1) 8,468,561 7,866,413 8,732,701 9,102,411 9,047,745 10,355,884 11,721,184 11,748,205	Federal Exempt Reported Payroll (2)  477,298 505,653 594,188 827,364 1,025,112 792,519 838,824 1,048,903 1,137,185 1,121,002 1,704,620  Federal Exempt Reported Payroll (2)  0 0 0 0 0 0 0 0 0 0	Reported Payroll  (3)  40,363 35,744 71,008 88,971 63,920 80,630 138,839 134,620 95,892 94,860 131,548  Partnership Reported Payroll (3)  13,327 0 0 0 0 0 0 0 0	Factor (4)  1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 7,521,400 7,534,735 7,958,048 10,981,642 9,311,812 7,630,762 8,360,898 9,554,806 7,953,309 7,793,558 10,018,416  Federal OD Payroll (1) + [(3)-(2)]*(4) (5) 8,481,888 7,866,413 8,732,701 9,102,411 9,047,745 10,355,884 11,721,184 11,748,205	Per Million (5)/1000000 (6) 7.521400 7.534735 7.958048 10.981642 9.311812 7.630762 8.360898 9.554806 7.953309 7.793558 10.018416 Payroll Per Million (5)/1000000 (6) 8.481888 7.866413 8.732701 9.102411 9.047745 10.355884 11.721184 11.748205
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018  BITUMINOUS  Year 2008 2009 2010 2011 2012 2013 2014 2015 2016	State OD Developed Payroll (1) 7,958,335 8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 8,819,700 11,591,488 CO-GEN (1023) State OD Payroll (1) 8,468,561 7,866,413 8,732,701 9,102,411 9,047,745 10,355,884 11,721,184 11,748,205 11,327,552	Federal Exempt Reported Payroll (2)  477,298 505,653 594,188 827,364 1,025,112 792,519 838,824 1,048,903 1,137,185 1,121,002 1,704,620  Federal Exempt Reported Payroll (2)  0 0 0 0 0 0 0 0 0 0 0 0 0	Reported Payroll  (3)  40,363 35,744 71,008 88,971 63,920 80,630 138,839 134,620 95,892 94,860 131,548  Partnership Reported Payroll (3)  13,327 0 0 0 0 0 0 0 0 0 0 0	Factor (4)  1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 7,521,400 7,534,735 7,958,048 10,981,642 9,311,812 7,630,762 8,360,898 9,554,806 7,953,309 7,793,558 10,018,416  Federal OD Payroll (1) + [(3)-(2)]*(4) (5) 8,481,888 7,866,413 8,732,701 9,102,411 9,047,745 10,355,884 11,721,184 11,748,205 11,327,552	Per Million (5)/1000000 (6) 7.521400 7.534735 7.958048 10.981642 9.311812 7.630762 8.360898 9.554806 7.953309 7.793558 10.018416 Payroll Per Million (5)/1000000 (6) 8.481888 7.866413 8.732701 9.102411 9.047745 10.355884 11.721184 11.748205 11.327552
Year 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018  BITUMINOUS  Year 2008 2009 2010 2011 2012 2013 2014 2015	State OD Developed Payroll (1) 7,958,335 8,004,644 8,481,228 11,720,035 10,273,004 8,342,651 9,060,883 10,469,089 8,994,602 8,819,700 11,591,488  CO-GEN (1023) State OD  Payroll (1) 8,468,561 7,866,413 8,732,701 9,102,411 9,047,745 10,355,884 11,721,184 11,748,205	Federal Exempt Reported Payroll (2)  477,298 505,653 594,188 827,364 1,025,112 792,519 838,824 1,048,903 1,137,185 1,121,002 1,704,620  Federal Exempt Reported Payroll (2)  0 0 0 0 0 0 0 0 0 0	Reported Payroll  (3)  40,363 35,744 71,008 88,971 63,920 80,630 138,839 134,620 95,892 94,860 131,548  Partnership Reported Payroll (3)  13,327 0 0 0 0 0 0 0 0	Factor (4)  1.0000	Payroll (1) + [(3)-(2)]*(4) (5) 7,521,400 7,534,735 7,958,048 10,981,642 9,311,812 7,630,762 8,360,898 9,554,806 7,953,309 7,793,558 10,018,416  Federal OD Payroll (1) + [(3)-(2)]*(4) (5) 8,481,888 7,866,413 8,732,701 9,102,411 9,047,745 10,355,884 11,721,184 11,748,205	Per Million (5)/1000000 (6) 7.521400 7.534735 7.958048 10.981642 9.311812 7.630762 8.360898 9.554806 7.953309 7.793558 10.018416 Payroll Per Million (5)/1000000 (6) 8.481888 7.866413 8.732701 9.102411 9.047745 10.355884 11.721184 11.748205

Source: Auger (1015) - Exhibit X-D, page 3 Coke (1469) - Exhibit X-D, page 3

Anthracite Co-Gen (1021) - Exhibit X-D, page 4 Bituminous Co-Gen (1023) - Exhibit X-D, page 4

#### COAL MINE COMPENSATION RATING BUREAU Federal OD Payrolls

ANTHRACITE	PREP PLANT (10	25)				
	State OD				Federal OD	Payroll
	Developed	Federal Exempt	Partnership	Development	Payroll	Per Million
	Payroll	Reported Payroll	Reported Payroll	Factor	(1) + [(3)-(2)]*(4)	(5)/1000000
<u>Year</u>	(1)	(2)	(3)	<u>(4)</u>	<u>(5)</u>	<u>(6)</u>
2008	6,390,767	766,824	109,600	1.0000	5,733,543	5.733543
2009	6,749,748	584,144	99,002	1.0000	6,264,606	6.264606
2010	5,762,086	1,016,835	131,676	1.0000	4,876,927	4.876927
2011	7,236,583	1,246,194	132,870	1.0000	6,123,259	6.123259
2012	8,671,140	1,248,180	146,063	1.0000	7,569,023	7.569023
2013	8,265,665	1,400,236	209,457	1.0000	7,074,886	7.074886
2014	8,234,771	1,877,979	164,749	1.0000	6,521,541	6.521541
2015	7,606,274	1,549,878	140,200	1.0000	6,196,596	6.196596
2016	7,018,927	1,728,560	252,601	1.0000	5,542,968	5.542968
2017	7,746,154	1,886,894	197,550	1.0000	6,056,810	6.056810
2018	9,643,085	2,865,985	131,456	1.0074	6,888,320	6.888320
DITLIAAINIOLIG	S PREP PLANT (10	271				
BITOMINOUS	State OD	2/ )			Federal OD	Payroll
	Developed	Federal Exempt	Partnership	Development	Payroll	Per Million
	Payroll	Reported Payroll	Reported Payroll	Factor	(1) + [(3)-(2)]*(4)	(5)/1000000
<u>Year</u>	(1)	(2)	(3)	(4)	(5)	(6)
2008	21,250,256	1 <u>21</u>	0 101	1.0000	21,250,256	21.250256
2009	19,828,012	0	0	1.0000	19,828,012	19.828012
2010	26,313,130	0	0	1.0000	26,313,130	26.313130
2011	35,155,068	0	0	1.0000	35,155,068	35.155068
2012	34,211,729	0	0	1.0000	34,211,729	34.211729
2013	34,253,697	613,728	0	1.0000	33,639,969	33.639969
2014	0 1,200,077	013),20	•			
	43 520 040	11 665 609	0	1 0000	31 854 431	.31 8.344.31
	43,520,040 33,564,176	11,665,609 9,243,568	0	1.0000	31,854,431 24,320,608	31.854431 24.320608
2015	33,564,176	9,243,568	0	1.0000	24,320,608	24.320608
2015 2016	33,564,176 23,689,882	9,243,568 3,610,481	0	1.0000 1.0000	24,320,608 20,079,401	24.320608 20.079401
2015	33,564,176	9,243,568	0	1.0000	24,320,608	24.320608

#### ANTHRACITE UNDERGROUND (1010)

	Developed	Files 258,330,4027 & 4049	OD	Payroll
	Payroll	Developed Payroll*	Payroll	Per Million
Year	(1)	(2)	(3) = (1) + (2)	(4) = (3)/1000000
2008	0	2,136,713	2,136,713	2.136713
2009	0	1,335,866	1,335,866	1.335866
2010	5,700	1,293,888	1,299,588	1.299588
2011	110,125	1,147,819	1,257,944	1.257944
2012	219,407	809,853	1,029,260	1.029260
2013	175,900	205,976	381,876	0.381876
2014	258,809	0	258,809	0.258809
2015	254,336	0	254,336	0.254336
2016	163,760	0	163,760	0.163760
2017	252,383	0	252,383	0.252383
2018	183,346	0	183,346	0.183346

#### BITUMINOUS UNDERGROUND (1001)

	Developed Payroll	Files 258,330,4027 & 4049 Developed Payroll*	OD Payroll	Payroll Per Million
Year	(1)	(2)	(3) = (1) - (2)	(4) = (3)/1000000
2008	103,490,690	2,136,713	101,353,977	101.353977
2009	102,684,006	1,335,866	101,348,140	101.348140
2010	126,687,464	1,293,888	125,393,576	125.393576
2011	149,633,528	1,147,819	148,485,709	148.485709
2012	154,428,761	809,853	153,618,908	153.618908
2013	149,953,068	205,976	149,747,092	149.747092
2014	271,230,707	0	271,230,707	271.230707
2015	216,454,460	0	216,454,460	216.454460
2016	148,556,407	0	148,556,407	148.556407
2017	172,800,836	0	172,800,836	172.800836
2018	179,699,685	0	179,699,685	179.699685

<sup>\*</sup> The reclassification from Anthracite U/G to Bituminous U/G applies to Traumatic, but not to OD. For Traumatic Files 258, 330, 4027 & 4049 are coded 1001 (payroll and losses). The above reclassification is made to move State and Federal O.D. exposures from Class 1001 (Bituminous U/G) back to Class 1010 (Anthracite U/G)

Other classification payrolls for these four files are unaffected by the re-classification.

Source: Developed Payroll - Exhibit X-D, page 1

CMCRB database for files 258, 330, 4027 and 4049 Payrolls as of 4-30-2019

## ANTHRACITE UNDERGROUND (1010)

	REPORTED	DEVELOPMENT	DEVELOPED
	PAYROLL*	FACTORS**	PAYROLL
Year	(1)	(2)	(3) = (1) * (2)
2008	2,136,713	1.0000	2,136,713
2009	1,335,866	1.0000	1,335,866
2010	1,293,888	1.0000	1,293,888
2011	1,147,819	1.0000	1,147,819
2012	809,853	1.0000	809,853
2013	205,976	1.0000	205,976
2014	0	1.0000	0
2015	0	1.0000	0
2016	0	1.0000	0
2017	0	1.0000	0
2018	0	1.0029	0

Source: CMCRB database for files 258, 330, 4027 and 4049 Payrolls as of 4-30-2019

<sup>\*</sup> For Traumatic Files 258, 330, 4027 and 4049 only.

<sup>\*\*</sup> Development Factors are averages of U/G Ant. and U/G Bit. Development Factors from Exhibit X-E-1

## ANTHRACITE UNDERGROUND (1010)

	REPORTED	DEVELOPMENT	DEVELOPED	PAYROLL
YEAR	PAYROLL	FACTORS	PAYROLL	PER MILLION
	(1)	(2)	(3)	(4)
			$=(1) \times (2)$	=(1)X(2)/1000000
2008	-	1.0000	-	0.000000
2009	-	1.0000	-	0.000000
2010	5,700	1.0000	5,700	0.005700
2011	110,125	1.0000	110,125	0.110125
2012	219,407	1.0000	219,407	0.219407
2013	175,900	1.0000	175,900	0.175900
2014	258,809	1.0000	258,809	0.258809
2015	254,336	1.0000	254,336	0.254336
2016	163,760	1.0000	163,760	0.163760
2017	252,383	1.0000	252,383	0.252383
2018	183,346	1.0000	183,346	0.183346

## BITUMINOUS UNDERGROUND (1001)

REPORTED	DEVELOPMENT	DEVELOPED	PAYROLL
PAYROLL	FACTORS	PAYROLL	PER MILLION
(1)	(2)	(3)	(4)
		$=(1) \times (2)$	=(1)X(2)/1000000
103,490,690	1.0000	103,490,690	103.490690
102,684,006	1.0000	102,684,006	102.684006
126,687,464	1.0000	126,687,464	126.687464
149,633,528	1.0000	149,633,528	149.633528
154,428,761	1.0000	154,428,761	154.428761
149,953,068	1.0000	149,953,068	149.953068
271,230,707	1.0000	271,230,707	271.230707
216,454,460	1.0000	216,454,460	216.454460
148,556,407	1.0000	148,556,407	148.556407
172,800,836	1.0000	172,800,836	172.800836
178,663,437	1.0058	179,699,685	179.699685
	PAYROLL (1)  103,490,690 102,684,006 126,687,464 149,633,528 154,428,761 149,953,068 271,230,707 216,454,460 148,556,407 172,800,836	PAYROLL (1) (2)  103,490,690 1.0000 102,684,006 1.0000 126,687,464 1.0000 149,633,528 1.0000 154,428,761 1.0000 149,953,068 1.0000 271,230,707 1.0000 216,454,460 1.0000 148,556,407 1.0000 172,800,836 1.0000	PAYROLL (1) (2) (3) =(1) x (2) 103,490,690 1.0000 102,684,006 1.0000 126,687,464 149,633,528 1.0000 154,428,761 149,953,068 1.0000 149,953,068 271,230,707 1.0000 148,556,407 172,800,836 1.0000 172,800,836

Source: (1) Payroll and (2) Development - Exhibit X-E, page 1

PAB

ANTHRACITE SU	IRFACE (1012)			
	REPORTED	DEVELOP	DEVELOPMENT	PAYROLL
YEAR	PAYROLL	<b>FACTORS</b>	PAYROLL	PER MILLION
	(1)	(2)	(3)	(4)
			$=(1) \times (2) =($	1)X(2)/1000000
2008	16,954,313	1.0000	16,954,313	16.954313
2009	16,445,462	1.0000	16,445,462	16.445462
2010	14,295,288	1.0000	14,295,288	14.295288
2011	21,034,600	1.0000	21,034,600	21.034600
2012	26,295,907	1.0000	26,295,907	26.295907
2013	22,449,824	1.0000	22,449,824	22.449824
2014	20,466,075	1.0000	20,466,075	20.466075
2015	24,218,779	1.0000	24,218,779	24.218779
2016	20,873,611	1.0000	20,873,611	20.873611
2017	21,167,074	1.0000	21,167,074	21.167074
2018	19,515,547	1.0083	19,677,526	19.677526
bituminous su	JRFACE (1014)			
	REPORTED	DEVELOP		PAYROLL
YEAR	PAYROLL	FACTORS	PAYROLL	PER MILLION
	(1)	(2)	(3)	(4)
	. ,	. ,		1)X(2)/1000000
2008	73,054,482	1.0000	73,054,482	73.054482
2009	61,784,394	1.0000	61,784,394	61.784394
2010	72,711,558	1.0000	72,711,558	72.711558
2011	86,074,064	1.0000	86,074,064	86.074064
2012	76,452,811	1.0000	76,452,811	76.452811
2013	61,349,745	1.0000	61,349,745	61.349745
2014	54,050,731	1.0000	54,050,731	54.050731
2015	40,934,048	1.0000	40,934,048	40.934048
2016	29,127,089	1.0000	29,127,089	29.127089
2017	33,140,780	1.0000	33,140,780	33.140780
2018	35,266,431	1.0000	35,266,431	35.266431

Source: (1) Payroll and (2) Development - Exhibit X-E, page 2

COKE (1469)				
	REPORTED	DEVELOPMENT	DEVELOPED	PAYROLL
YEAR	PAYROLL	FACTORS	PAYROLL	PER MILLION
	(1)	(2)	(3)	(4)
			$=(1) \times (2)$	=(1)X(2)/1000000
2008	9,761,146	1.0000	9,761,146	9.761146
2009	5,173,552	1.0000	5,173,552	5.173552
2010	5,435,658	1.0000	5,435,658	5.435658
2011	3,599,086	1.0000	3,599,086	3.599086
2012	5,738,105	1.0000	5,738,105	5.738105
2013	4,791,910	1.0000	4,791,910	4.791910
2014	4,464,398	1.0000	4,464,398	4.464398
2015	4,340,376	1.0000	4,340,376	4.340376
2016	4,435,066	1.0000	4,435,066	4.435066
2017	4,566,113	1.0000	4,566,113	4.566113
2018	4,375,412	1.0186	4,456,795	4.456795
AUGER (1015)	2522255	DEVELOR ( ) EVIT	55/5/655	5.175011
V5.5	REPORTED	DEVELOPMENT	DEVELOPED	
YEAR	PAYROLL	FACTORS	PAYROLI	_
	(1)	(2)	(3)	(4)
0000	0.400.550	1.0000	$=(1) \times (2)$	=(1)X(2)/1000000
2008	2,488,558	1.0000	2,488,558	2.488558
2009	926,163	1.0000	926,163	0.926163
2010	806,696	1.0000	806,696	0.806696
2011	1,176,255	1.0000	1,176,255	1.176255
2012	808,208	1.0000	808,208	0.808208
2013	1,025,399	1.0000	1,025,399	1.025399
2014	806,976	1.0000	806,976	0.806976
2015 2016	582,619 372,494	1.0000 1.0000	582,619 372,496	0.582619 0.372496
2016	372,496 449,009	1.0000	3/2,496 449,009	0.372496
2017	560,126	1.0000	560,126	0.560126
2018	360,126	1.0000	360,126	0.360126

Source: (1) Payroll and (2) Development - Exhibit X-E, page 3

ANTHRACITE C	O-GEN (1021)			
	REPORTED	DEVELOPMENT	DEVELOPED	PAYROLL
YEAR	PAYROLL	FACTORS	PAYROLI	PER MILLION
	(1)	(2)	(3)	(4)
			$=(1) \times (2)$	=(1)X(2)/1000000
2008	7,958,335	1.0000	7,958,335	7.958335
2009	8,004,644	1.0000	8,004,644	8.004644
2010	8,481,228	1.0000	8,481,228	8.481228
2011	11,720,035	1.0000	11,720,035	11.720035
2012	10,273,004	1.0000	10,273,004	10.273004
2013	8,342,651	1.0000	8,342,651	8.342651
2014	9,060,883	1.0000	9,060,883	9.060883
2015	10,469,089	1.0000	10,469,089	10.469089
2016	8,994,602	1.0000	8,994,602	8.994602
2017	8,819,700	1.0000	8,819,700	8.819700
2018	11,591,488	1.0000	11,591,488	11.591488

BITUMINOUS CO	O-GEN (1023)			
	REPORTED	DEVELOPMENT		PAYROLL
YEAR	PAYROLL	FACTORS	PAYROLL	PER MILLION
	(1)	(2)	(3)	(4)
			$=(1) \times (2)$	=(1)X(2)/1000000
2008	8,468,561	1.0000	8,468,561	8.468561
2009	7,866,413	1.0000	7,866,413	7.866413
2010	8,732,701	1.0000	8,732,701	8.732701
2011	9,102,411	1.0000	9,102,411	9.102411
2012	9,047,745	1.0000	9,047,745	9.047745
2013	10,355,884	1.0000	10,355,884	10.355884
2014	11,721,184	1.0000	11,721,184	11.721184
2015	11,748,205	1.0000	11,748,205	11.748205
2016	11,327,552	1.0000	11,327,552	11.327552
2017	11,435,057	1.0000	11,435,057	11.435057
2018	11,996,610	1.0000	11,996,610	11.996610

Source: (1) Payroll and (2) Development - Exhibit X-E, page 4

	REPORTED	DEVELOPMENT	DEVELOPED	PAYROLL
YEAR	PAYROLL	FACTORS	PAYROLL	PER MILLION
	(1)	(2)	(3)	(4)
			$=(1) \times (2)$	=(1)X(2)/1000000
2008	6,390,767	1.0000	6,390,767	6.390767
2009	6,749,748	1.0000	6,749,748	6.749748
2010	5,762,086	1.0000	5,762,086	5.762086
2011	7,236,583	1.0000	7,236,583	7.236583
2012	8,671,140	1.0000	8,671,140	8.671140
2013	8,265,665	1.0000	8,265,665	8.265665
2014	8,234,771	1.0000	8,234,771	8.234771
2015	7,606,274	1.0000	7,606,274	7.606274
2016	7,018,927	1.0000	7,018,927	7.018927
2017	7,746,154	1.0000	7,746,154	7.746154
2018	9,572,250	1.0074	9,643,085	9.643085

### BITUMINOUS PREP PLANT (1027)

	REPORTED	DEVELOPMENT		PAYROLL
YEAR	PAYROLL	FACTORS	PAYROLL	
1 1 / 11			_	_
	(1)	(2)	(3)	(4)
			$=(1) \times (2)$	=(1)X(2)/1000000
2008	21,250,256	1.0000	21,250,256	21.250256
2009	19,828,012	1.0000	19,828,012	19.828012
2010	26,313,130	1.0000	26,313,130	26.313130
2011	35,155,068	1.0000	35,155,068	35.155068
2012	34,211,729	1.0000	34,211,729	34.211729
2013	34,253,697	1.0000	34,253,697	34.253697
2014	43,520,040	1.0000	43,520,040	43.520040
2015	33,564,176	1.0000	33,564,176	33.564176
2016	23,689,882	1.0000	23,689,882	23.689882
2017	28,816,678	1.0000	28,816,678	28.816678
2018	31,517,751	1.0170	32,053,553	32.053553

Source: (1) Payroll and (2) Development - Exhibit X-E, page 5

## PAYROLLS ANTHRACITE UNDERGROUND (1010)

					•	ANIRKACIIE U	INDERGROUN	ט (וטוט)					
RPT	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		
1ST	0	0	5,700	110,125	219,407	175,900	258,809	254,336	163,760	252,383	183,346		
2ND	0	0	5,700	110,125	219,407	175,900	258,809	254,336	163,760	252,383			
3RD	0	0	5,700	110,125	219,407	175,900	258,809	254,336	163,760				
4TH	0	0	5,700	110,125	219,407	175,900	258,809	254,336					
5TH	0	0	5,700	110,125	219,407	175,900	258,809						
											5 YEAR		
DEV.	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	<u>AVERAGE</u>	ACCUM.	<u>SELECTED</u>
1-2			1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2-3			1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	1.0000	1.0000
3-4			1.0000	1.0000	1.0000	1.0000	1.0000	1.0000			1.0000	1.0000	1.0000
4-5			1.0000	1.0000	1.0000	1.0000	1.0000				1.0000	1.0000	1.0000
						P BITUMINOUS U	ayrolls ndergroun	D (1001)					
RPT	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		
1ST	102,595,885	100,337,635	126,269,667	150,087,771	156,022,224	148,858,839	269,946,018	216,498,553	148,894,215	169,570,264	178,663,437		
2ND	103,490,690	102,684,006	126,687,464	149,633,528	154,428,761	149,953,068	271,230,707	216,454,460	148,556,407	172,800,836			
3RD	103,490,690	102,684,006	126,687,464	149,633,528	154,428,761	149,953,068	271,230,707	216,454,460	148,556,407				
4TH	103,490,690	102,684,006	126,687,464	149,633,528	154,428,761	149,953,068	271,230,707	216,454,460					
5TH	103,490,690	102,684,006	126,687,464	149,633,528	154,428,761	149,953,068	271,230,707						
											5 YEAR		
DEV.	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	<u>AVERAGE</u>	ACCUM.	<u>SELECTED</u>
1-2	1.0087	1.0234	1.0033	0.9970	0.9898	1.0074	1.0048	0.9998	0.9977	1.0191	1.0058	1.0058	1.0058
2-3	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	1.0000	1.0000
3-4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000			1.0000	1.0000	1.0000
4-5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000				1.0000	1.0000	1.0000

## PAYROLLS ANTHRACITE SURFACE (1012)

						,	2001117102 (11	0.2,					
RPT	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		
1ST	17,094,165	16,464,925	14,316,712	21,041,889	26,061,126	22,127,846	20,422,650	24,275,156	20,717,621	20,760,851	19,515,547		
2ND	16,999,485	16,445,462	14,302,955	21,034,600	26,295,907	22,449,824	20,466,075	24,218,779	20,873,611	21,167,074			
3RD	16,954,313	16,445,462	14,295,288	21,034,600	26,295,907	22,449,824	20,466,075	24,218,779	20,873,611				
4TH	16,954,313	16,445,462	14,295,288	21,034,600	26,295,907	22,449,824	20,466,075	24,218,779					
5TH	16,954,313	16,445,462	14,295,288	21,034,600	26,295,907	22,449,824	20,466,075						
											5 YEAR		
DEV.	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	<u>AVERAGE</u>	ACCUM.	<u>SELECTED</u>
1ST	0.9945	0.9988	0.9990	0.9997	1.0090	1.0146	1.0021	0.9977	1.0075	1.0196	1.0083	1.0083	1.0083
2-3	0.9973	1.0000	0.9995	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	1.0000	1.0000
3-4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000			1.0000	1.0000	1.0000
4-5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000				1.0000	1.0000	1.0000
							AYROLLS IS SURFACE (10	014)					
RPT	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		
1ST	72,508,648	62,272,331	72,008,001	84,685,809	77,151,225	63,473,577	54,685,762	41,179,672	28,999,042	34,474,120	35,266,431		
2ND	73,054,482	61,784,394	72,711,558	86,074,064	76,452,811	61,349,745	54,050,731	40,934,048	29,127,089	33,140,780			
3RD	73,054,482	61,784,394	72,711,558	86,074,064	76,452,811	61,349,745	54,050,731	40,934,048	29,127,089				
4TH	73,054,482	61,784,394	72,711,558	86,074,064	76,452,811	61,349,745	54,050,731	40,934,048					
5TH	73,054,482	61,784,394	72,711,558	86,074,064	76,452,811	61,349,745	54,050,731						
											5 YEAR		
DEV.	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	<u>AVERAGE</u>		<u>SELECTED</u>
1-2	1.0075	0.9922	1.0098	1.0164	0.9909	0.9665	0.9884	0.9940	1.0044	0.9613	0.9829	0.9829	1.0000
2-3	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	1.0000	1.0000
3-4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000			1.0000	1.0000	1.0000
4-5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000				1.0000	1.0000	1.0000

### PAYROLLS COKE (1469)

						CO	KL (1407)							
RPT	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018			
1ST	9,761,146	5,173,552	5,435,658	3,599,086	5,738,105	4,791,910	4,464,398	4,057,561	4,435,066	4,462,231	4,375,412			
2ND	9,761,146	5,173,552	5,435,658	3,599,086	5,738,105	4,791,910	4,464,398	4,340,376	4,435,066	4,566,113				
3RD	9,761,146	5,173,552	5,435,658	3,599,086	5,738,105	4,791,910	4,464,398	4,340,376	4,435,066					
4TH	9,761,146	5,173,552	5,435,658	3,599,086	5,738,105	4,791,910	4,464,398	4,340,376						
5TH	9,761,146	5,173,552	5,435,658	3,599,086	5,738,105	4,791,910	4,464,398							
											5 YEAR			
DEV.	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	<u>AVERAGE</u>	ACCUM.	<u>SELECTED</u>	
1-2	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0697	1.0000	1.0233	1.0186	1.0186	1.0186	
2-3	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	1.0000	1.0000	
3-4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000			1.0000	1.0000	1.0000	
4-5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000				1.0000	1.0000	1.0000	
						PA	YROLLS							
						AUG	SER (1015)							
RPT	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018			
1ST	2,489,280	935,743	793,313	1,151,902	789,136	1,082,639	876,196	592,775	372,496	452,051	560,126			
2ND	2,488,558	926,163	806,696	1,176,255	808,208	1,025,399	806,976	582,619	372,496	449,009				
3RD	2,488,558	926,163	806,696	1,176,255	808,208	1,025,399	806,976	582,619	372,496					
4TH	2,488,558	926,163	806,696	1,176,255	808,208	1,025,399	806,976	582,619						
5TH	2,488,558	926,163	806,696	1,176,255	808,208	1,025,399	806,976							
											5 YEAR			
DEV.	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	<u>AVERAGE</u>	ACCUM.	<u>SELECTED</u>	
1-2	0.9997	0.9898	1.0169	1.0211	1.0242	0.9471	0.9210	0.9829	1.0000	0.9933	0.9689	0.9689	1.0000	
2-3	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	1.0000	1.0000	
3-4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000			1.0000	1.0000	1.0000	
4-5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000				1.0000	1.0000	1.0000	

### PAYROLLS ANTHRACITE CO-GEN (1021)

						,	2 00 02(	22.1					
RPT	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		
1ST	7,974,156	8,083,804	8,455,858	11,710,908	10,377,312	8,678,376	9,279,611	10,646,550	10,847,424	9,038,435	11,591,488		
2ND	7,958,335	8,004,644	8,481,228	11,720,035	10,273,004	8,342,651	9,060,883	10,469,089	8,994,602	8,819,700			
3RD	7,958,335	8,004,644	8,481,228	11,720,035	10,273,004	8,342,651	9,060,883	10,469,089	8,994,602				
4TH	7,958,335	8,004,644	8,481,228	11,720,035	10,273,004	8,342,651	9,060,883	10,469,089					
5TH	7,958,335	8,004,644	8,481,228	11,720,035	10,273,004	8,342,651	9,060,883						
											5 YEAR		
DEV.	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	<u>AVERAGE</u>	ACCUM.	<u>SELECTED</u>
1-2	0.9980	0.9902	1.0030	1.0008	0.9899	0.9613	0.9764	0.9833	0.8292	0.9758	0.9452	0.9452	1.0000
2-3	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	1.0000	1.0000
3-4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000			1.0000	1.0000	1.0000
4-5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000				1.0000	1.0000	1.0000
							AYROLLS IS CO-GEN (10	023)					
RPT	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		
1ST	8,469,399	7,861,068	9,236,721	9,015,644	9,057,266	13,079,796	11,451,621	11,723,112	11,386,837	11,576,297	11,996,610		
2ND	8,468,561	7,866,413	8,732,701	9,102,411	9,047,745	10,355,884	11,721,184	11,748,205	11,327,552	11,435,057			
3RD	8,468,561	7,866,413	8,732,701	9,102,411	9,047,745	10,355,884	11,721,184	11,748,205	11,327,552				
4TH	8,468,561	7,866,413	8,732,701	9,102,411	9,047,745	10,355,884	11,721,184	11,748,205					
5TH	8,468,561	7,866,413	8,732,701	9,102,411	9,047,745	10,355,884	11,721,184						
											5 YEAR		
DEV.	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	<u>AVERAGE</u>	-	<u>SELECTED</u>
1-2	0.9999	1.0007	0.9454	1.0096	0.9989	0.7917	1.0235	1.0021	0.9948	0.9878	0.9600	0.9600	1.0000
2-3	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9948 1.0000	0.9878	1.0000	1.0000	1.0000
										0.9878			

## PAYROLLS ANTHRACITE PREP PLANT (1025)

						AMINACIL		1023)					
RPT	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		
1ST	6,320,163	6,785,937	5,723,658	7,300,075	8,617,327	8,249,896	8,098,851	7,770,095	6,971,270	7,502,719	9,572,250		
2ND	6,390,767	6,749,748	5,762,086	7,236,583	8,671,140	8,265,665	8,234,771	7,606,274	7,018,927	7,746,154			
3RD	6,390,767	6,749,748	5,762,086	7,236,583	8,671,140	8,265,665	8,234,771	7,606,274	7,018,927				
4TH	6,390,767	6,749,748	5,762,086	7,236,583	8,671,140	8,265,665	8,234,771	7,606,274					
5TH	6,390,767	6,749,748	5,762,086	7,236,583	8,671,140	8,265,665	8,234,771						
											5 YEAR		
DEV.	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	<u>AVERAGE</u>	ACCUM.	<u>SELECTED</u>
1-2	1.0112	0.9947	1.0067	0.9913	1.0062	1.0019	1.0168	0.9789	1.0068	1.0324	1.0074	1.0074	1.0074
2-3	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000		1.0000	1.0000	1.0000
3-4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000			1.0000	1.0000	1.0000
4-5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000				1.0000	1.0000	1.0000
						P	AYROLLS						
						BITUMINOUS	PREP PLANT (	1027)					
RPT	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		
	2000	2007	20.0	20	20.2	20.0	20	20.0	20.0	2017	20.0		
1ST	20,315,099	19,852,091	25,843,606	34,632,323	34,353,700	33,730,152	43,397,620	34,011,862	22,065,227	28,602,522	31,517,751		
2ND	21,250,256	19,828,012	26,313,130	35,155,068	34,211,729	34,207,489	43,520,040	33,564,176	23,689,882	28,816,678			
3RD	21,250,256	19,828,012	26,313,130	35,155,068	34,211,729	34,253,697	43,520,040	33,564,176	23,689,882				
4TH	21,250,256	19,828,012	26,313,130	35,155,068	34,211,729	34,253,697	43,520,040	33,564,176					
5TH	21,250,256	19,828,012	26,313,130	35,155,068	34,211,729	34,253,697	43,520,040						
											5 YEAR		
DEV.	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	<u>AVERAGE</u>	ACCUM.	<u>SELECTED</u>
1-2	1.0460	0.9988	1.0182	1.0151	0.9959	1.0142	1.0028	0.9868	1.0736	1.0075	1.0170	1.0173	1.0170
2-3	1.0000	1.0000	1.0000	1.0000	1.0000	1.0014	1.0000	1.0000	1.0000		1.0003	1.0003	1.0000
3-4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000			1.0000	1.0000	1.0000
4-5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000				1.0000	1.0000	1.0000

# COAL MINE COMPENSATION RATING BUREAU OD Frequencies From Approved Filing

		State OD		Federal OD	Fedeal OD	Fedeal OD
		Class	State OD	Class	Basic	Excess
		Code	Indicated	Code	Indicated	Indicated
			Frequency		Frequency	Frequency
			(Eff. 4/1/2019)		(Eff. 4/1/2019)	(Eff. 4/1/2019)
			(1)		(2)	(3)
Underground:	Anthracite	1011	0.195274	160	0.204365	0.077841
	Bituminous	1002	0.017266	158	0.010342	0.006680
Curtoso	A mthra aita	1017	0.00/111	1.50	0.050501	0.011500
Surface:	Anthracite	1016	0.026111	153	0.059501	0.011588
	Bituminous	1013	0.006445	156	0.023691	0.002194
	Coke	1017	0.002498	154	0.002260	0.001004
	Auger	1019	0.005209	157	0.010935	0.002158
Co Con.	A mthra aita	1000	0.005000	101	0.010707	0.001071
Co-Gen:	Anthracite	1022	0.005280	181	0.010787	0.001961
	Bituminous	1024	0.007351	182	0.007228	0.002519
Prep Plants:	Anthracite	1026	0.048208	183	0.022206	0.020957
,	Bituminous	1028	0.003889	184	0.008547	0.001484

Source: (1): Exhibit III Column (3) of prior filing.

(2) & (3): Exhibit IV-A Column (3) of prior filing.

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Run Date: August 19, 2019 - 03:19:48 PM

PAB Effective Date - April 01, 2020 11,846.805779

Architracine Bituminous   Anthraceine   Bituminous   Bituminous   Anthraceine   Bituminous   Bituminous   Anthraceine   Bituminous   Anthraceine   Bituminous   Anthraceine   Bituminous   Anthraceine   Bituminous   B						Avero	ge Coal Cla	ss Weekly Wo	ides			
Variable   Variable			Anthracite	Bituminous	Anthracite		ge courcia	33 WEEKIY WO		Bituminous	Anthracite	Bituminous
Very   10   10   10   10   10   10   10   1							Coke	Auger				
2009	Year		-	-		1014		-	-	1023		1027
2010										1020		
2011										868.00		
2012												
2014	2012			1,409.80				405.00	1,049.67		1,225.08	
2015	2013		#	1,450.44	961.94	1,056.17	584.76	556.80	933.53	1,188.00	836.20	1,268.33
2016	2014		#	1,489.37	972.96	988.63	100.00	520.00	843.52	908.00	943.94	1,307.50
2017	2015			1,634.39	1,071.78	968.80		722.00	1,075.00	836.67	1,005.00	1,295.56
Number of Wage Records Used to Calculate Average Cool Class Weekly Wages   1,021,75   1,103,76				1,661.23								
Number of Wage Records Used to Calculate Average Cool Class Weekly Wages							-					
Year   1010   1001   1012   1014   1469   1015   1021   1023   1025   1027	2018		#	1,583.66	1,434.53	1,269.33	546.00		950.16	1,323.83	1,021.75	1,103.76
Year   1010   1001   1012   1014   1469   1015   1021   1023   1025   1027					lumber of Wo	gae Records Us	ed to Calcu	late Average	Coal Class W	Veekly Wages	<u> </u>	
Description	Year		1010			-						1027
2010			·	·				·			· · · · · · · · · · · · · · · · · · ·	
2011										2		
2012												
2013							<u> </u>					
2014						<u> </u>	2					
2015												
2016												
2017	2015		#			10	3	2			4	
Month   Mont	2016		#	99	22	6	1		7	1	4	9
Total   1223   206   187   28   18   54   27   50   87	2017		#	116	23	5	6		7	4	1	6
Total   1223   206   187   28   18   54   27   50   87	2018		#	<u>106</u>	11	<u>6</u>	<u>1</u>		11	<u>6</u>	<u>4</u>	<u>5</u>
Year         SAWW         1010         1001         1012         1014         1469         1015         1021         1023         1025         1027           2009         836         #         1,420         1,064         1,056         0,836         0,539         1,189         1,261         1,204           2010         845         #         1,416         1,036         1,029         0,507         0,662         0,770         1,027         0,793         1,250           2011         858         #         1,478         1,114         1,125         0,593         0,679         0,744         1,051         0,827         1,362           2012         888         #         1,588         1,156         1,164	Total			1223	206	187	28	18	54	27	50	
Year         SAWW         1010         1001         1012         1014         1469         1015         1021         1023         1025         1027           2009         836         #         1,420         1,064         1,056         0,836         0,539         1,189         1,261         1,204           2010         845         #         1,416         1,036         1,029         0,507         0,662         0,770         1,027         0,793         1,250           2011         858         #         1,478         1,114         1,125         0,593         0,679         0,744         1,051         0,827         1,362           2012         888         #         1,588         1,156         1,164												
2009												
2010										<u>1023</u>		
2011   858												
2012   888												
2013   917							0.593					
2014   932						_	0.730					
2015   951												
2016   978   #   1.699   1.100   1.087   2.156     1.159   0.730   1.174   1.857												
2017   995							_	0.737				
Average   1025												
Average							-					
Year         SAWW         Bit. Und. & Prep         All Other Classes           2009         836         1.410         1.032           2010         845         1.408         0.973           2011         858         1.466         1.028           2012         888         1.560         1.192           2013         917         1.564         1.036           2014         932         1.585         0.999           2015         951         1.699         1.024           2016         978         1.712         1.132           2017         995         1.565         1.145           2018         1025         1.524         1.161           Average         1.549         1.072			_				-	0.609				
Year         SAWW         Bit. Und. & Prep         All Other Classes           2009         836         1.410         1.032           2010         845         1.408         0.973           2011         858         1.466         1.028           2012         888         1.560         1.192           2013         917         1.564         1.036           2014         932         1.585         0.999           2015         951         1.699         1.024           2016         978         1.712         1.132           2017         995         1.565         1.145           2018         1025         1.524         1.161           Average         1.549         1.072				Average C	oal Class We	ekly Waae Ind	eved to State	wide Averag	10 Weekly W	nge - Classes	Combined	
2009     836     1.410     1.032       2010     845     1.408     0.973       2011     858     1.466     1.028       2012     888     1.560     1.192       2013     917     1.564     1.036       2014     932     1.585     0.999       2015     951     1.699     1.024       2016     978     1.712     1.132       2017     995     1.565     1.145       2018     1025     1.524     1.161       Average     1.549     1.072	Year	SAWW		, trorage C	Sai Siass 116			ao / (voiag	, o moonly vvo	-		
2010     845     1.408     0.973       2011     858     1.466     1.028       2012     888     1.560     1.192       2013     917     1.564     1.036       2014     932     1.585     0.999       2015     951     1.699     1.024       2016     978     1.712     1.132       2017     995     1.565     1.145       2018     1025     1.524     1.161       Average     1.549     1.072												
2011     858     1.466     1.028       2012     888     1.560     1.192       2013     917     1.564     1.036       2014     932     1.585     0.999       2015     951     1.699     1.024       2016     978     1.712     1.132       2017     995     1.565     1.145       2018     1025     1.524     1.161       Average     1.549     1.072							_					
2012     888     1.560     1.192       2013     917     1.564     1.036       2014     932     1.585     0.999       2015     951     1.699     1.024       2016     978     1.712     1.132       2017     995     1.565     1.145       2018     1025     1.524     1.161       Average     1.549     1.072												
2014     932     1.585     0.999       2015     951     1.699     1.024       2016     978     1.712     1.132       2017     995     1.565     1.145       2018     1025     1.524     1.161       Average     1.549     1.072												
2015     951     1.699     1.024       2016     978     1.712     1.132       2017     995     1.565     1.145       2018     1025     1.524     1.161       Average     1.549     1.072	2013	917				1.56	4			1.0	36	
2016     978     1.712     1.132       2017     995     1.565     1.145       2018     1025     1.524     1.161       Average     1.549     1.072												
2017     995     1.565     1.145       2018     1025     1.524     1.161       Average     1.549     1.072												
2018     1025       Average     1.524       1.549     1.072												
Average												
		1025										
Selected Coal Class Adjt. Factor to SAWW 1.549 1.072									ı			
	Selected C	oal Class	Adjt. Factor to	5AWW		1.54	9			1.0	/2	

Notes: Average Coal Class Weekly Wages were derived from CMCRB database for Traumatic Claims.

Average Weekly Wages by class exclude years with zero claims.

# Data for Anthracite Underground was too thin for inclusion.

SAWW = Statewide Average Weekly Wage

The number of records with wage histories are very close to, but less than, lost time claim counts due to missing wage records for some lost time accidents.

For these Classes and Years, there isn't any data.

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### Section A. Office of Small Business Advocate Assessment Factor Calculation

1. 2017-2020 SITICII DOSITIESS ACIVOCCITE ASSESSITIETTI \$ 200,0	1.	2019-2020 Small Business Advocate Assessment	\$	280,00
--	----	--	----	--------

2. 2018 Insurance Carrier Paid Losses

 CMCRB
 22,470,375

 PCRB
 2,216,375,969

 Total
 2,238,846,344

3. Insurer Assessment Ratio (item 1 divided by item 2) 0.0001

### Section B. Employer Assessment Factor Calculation

1. 2019/2020 INSURANCE CARRIER ASSESSMENT AMOUNTS

<ul> <li>A. Administrative Fund</li> </ul>	51,723,784
B. Subsequent Injury Fund	143,627
C. Supersedeas Fund	16,012,749
D. Uninsured Employers Guaranty Fu	nd <u>5,603,317</u>
TOTAL	73,483,477

2.	2018 Employer Assessment Premium Base	3,627,074,324
3.	2018 Coal Mine Premium Base	20,697,683
4.	Coal Premium percent of Total (3)/(	2) 0.571%
5.	Assessments to be paid by coal employers	419,329
6.	Coal Employer Assessment Factor	0.0203

Source: Pa. Dept. of Labor & Industry PCRB

PAB

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 Effective Date - April 01, 2020

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### CATASTROPHE - Spread of Loss Cost to Classes

	(1) 2018	(2)	(3)	(4)	(5)	(6) Actual	(7) Approved	(8)	(9)
<u>Classification</u>	Developed <u>Payrolls</u>	Hazard <u>Weights</u>	Payroll <u>Weight</u> (1)x(2)/1000	Percentage of Exposure	Catastrophe <u>Losses</u> (4)xAverage	Loss Cost <u>Spread</u> [(5)/(1)]x100	Loss Cost 4/1/2019	<u>Selected</u>	Rate <u>Change</u> (8)/(7) - 1
Underground Anthracite Underground Bituminous Underground Total	1010 \$183,346 1001 <u>179,699,685</u> 179,883,031	7	1,259,181	91.0%	337,822	0.19	0.17	0.19	11.8%
Other than Underground Anthracite Surface Bituminous Surface Coke Auger Anthracite Co-Gen Bituminous Co-Gen Anthracite Prep Plant Bituminous Prep Plant	1012 19,677,526 1014 35,266,431 1469 4,456,795 1015 560,126 1021 11,591,488 1023 11,996,610 1025 9,643,085 1027 32,053,553 125,245,614	1	125,246	9.0%	33,602	0.03	0.02	0.03	50.0%
Grand Total	305,128,645	8	1,384,427	100.0%	371,424	0.12	a-0.11	0.12	9.1%

Source: (1) Payroll - Exhibit X-A

(2) Hazard Weights - Judgement

(5) Catastrophe Losses, Grand Total - Exhibit XII-B

Exhibit XII-A

a - Current Total Loss Cost is based on 2018 Payroll weights

b- Auger = one-third underground & two-thirds surface or \$0.08

### COAL MINE COMPENSATION RATING BUREAU CATASTROPHE CALCULATION TRAUMATIC ON-LEVEL LOSSES IN EXCESS OF \$1,250,000

	Number of	Excess
Accident	Excess	Loss
<u>Year</u>	Claims	Dollars
	<del></del>	
1999	1	371,479
2000	-	-
2001	-	-
2002	1	419,300
2003	2	693,187
2004	2	1,437,001
2005	3	1,569,911
2006	-	-
2007	1	2,458,497
2008	1	163,112
2009	-	-
2010	1	95,337
2011 2012	1	1,673
2012	<u>'</u>	-
2013	-	_
2015	-	-
2016	-	-
2017	-	-
2018	1	218,981
	14	7,428,478
	Average over 20 years	371,424
	2018 Developed Payroll from Exhibit XII-A	305,128,645
	Loss Cost	0.12

Source: Claims detail from Exhibit XII-C

PAB

### Exhibit XII-C

371,424

0.12

305,128,645

# COAL MINE COMPENSATION RATING BUREAU CATASTROPHE CALCULATION TRAUMATIC LOSSES OVER \$1,250,000

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
				Incurred						Medical	Loss at	
Key		Accident	Injury	Indemnity	Incurred	Paid	O/S	Act		w/Trend &	Current	Excess
<u>Number</u>	<u>Class</u>	<u>Year</u>	<u>Type</u>	<u>&amp; Funeral</u>	<u>Medical</u>	<u>Medical</u>	<u>Medical</u>	44 Factor	<u>Trend</u>	Act 44 Factor	Level	Over \$1,250,000
34602	100100	1999	9	358,233	512,500	512,500	-	1.0000	1.8622	954,378	1,621,479	371,479
Que Creek	100100	2002	9	892,793	116,396	116,396	-	1.0000	1.6541	192,531	1,669,300	419,300
39840	100100	2003	2	419,207	485,877	277,042	208,835	1.0000	1.6222	788,190	1,468,227	218,227
39990	100100	2003	1	1,063,346	-	-	-	1.0000	1.6222	_	1,724,960	474,960
40926	100100	2004	9	727,254	603,807	477,759	126,048	1.0000	1.5870	958,242	2,112,394	862,394
41102	102700	2004	2	505,991	643,730	643,730	-	1.0000	1.5870	1,021,600	1,824,607	574,607
41534	101400	2005	1	920,373	25,566	25,566	-	1.0000	1.5293	39,098	1,446,625	196,625
41672	100100	2005	2	904,841	442,000	356,709	85,291	1.0000	1.5293	675,951	2,059,724	809,724
41676	100100	2005	2	1,010,877	175,000	88,251	86,749	1.0000	1.5293	3 267,628	1,813,562	563,562
43059	101200	2007	2	638,373	2,000,000	1,662,038	337,962	1.0000	1.4056	2,811,200	3,708,497	2,458,497
43835	100100	2008	1	1,029,995	11,432	11,432	-	1.0000	1.3569	15,512	1,413,112	163,112
46013	100100	2011	9	255,666	798,508	408,316	390,192	1.0000	1.2762	1,019,056	1,345,337	95,337
46135	100100	2012	9	246,748	768,314	768,314	-	1.0000	1.2331	947,408	1,251,673	1,673
50046	102100	2018	1	375,064	1,000,000	694,584	305,416	1.0000	1.0683	1,068,300	1,468,981	218,981

Totals 14 24,928,478 7,428,478

Sources: Columns (1) through (8) from CMCRB Database.

Injury types are as follows: 1 (Death), 2 (Permanent Total), 9 (Permanent Partial).

Column (9): Exhibit VI-B page 1

Column (10): Exhibit XII-D.

Column (11) is equal to Columns [(7) X (9) + (8)] x (10) Column (12) is equal to Columns (5) X (10) + (11) Column (13) is equal to Column (12), minus \$1,250,000

20 Year Average

Loss Cost

2018 Developed Payroll

### Coal Mine Compensation Rating Bureau Catastrophe Calculation Trend Factors for Medical and Indemnity

<u>Year</u>	Statewide Average Weekly <u>Wage</u>	Yearly Percentage <u>Change</u>	Trend <u>Factor</u>	<u>Year</u>	Statewide Average Weekly <u>Wage</u>	Yearly Percentage <u>Change</u>	Trend <u>Factor</u>
1999	\$588		1.8622				
2000	\$611	3.9%	1.7921	2010	\$845	1.1%	1.2959
2001	\$644	5.4%	1.7003	2011	\$858	1.5%	1.2762
2002	\$662	2.8%	1.6541	2012	\$888	3.5%	1.2331
2003	\$675	2.0%	1.6222	2013	\$917	3.3%	1.1941
2004	\$690	2.2%	1.5870	2014	\$932	1.6%	1.1749
2005	\$716	3.8%	1.5293	2015	\$951	2.0%	1.1514
2006	\$745	4.1%	1.4698	2016	\$978	2.8%	1.1196
2007	\$779	4.6%	1.4056	2017	\$995	1.7%	1.1005
2008	\$807	3.6%	1.3569	2018	\$1,025	3.0%	1.0683
2009	\$836	3.6%	1.3098	2019	\$1,049	2.3%	1.0439

Average of All Years= 2.94%
Average of last 10 years= 2.30%
Average of last 5 years= 2.36%
Average of last 3 years= 2.36%

Selected= 2.50% (Last Year's Selection was 2.50%)

	Projected	l	
	<u>Wage</u>		<u>Weight</u>
01-01-2020	\$1,075	а	28.125%
01-01-2021	\$1,102	а	68.750%
01-01-2022	\$1,130	а	3.125%

Average Weekly Wage For Policies effective between 04-01-2020 and 04-01-2022

\$1,095 b

a. Previous year's wage times annual increase of 2.50%

b. Weighted average of projected wage levels from 01-01-2020 to 01-01-2022

Source: Statewide Average Weekly Wage data is from the Pennsylvania Workers'
Compensation Act booklet or the Department of Labor and Industry website.

# Coal Mine Compensation Rating Bureau Catastrophe Calculation Traumatic Losses by Class

Class		Number of	Excess Over
<u>Code</u>	<u>Description</u>	<u>Claims</u>	<u>\$1,250,000</u>
1010	Anthracite Underground	-	-
1001	Bituminous Underground	10	3,979,768
1012	Anthracite Surface	1	2,458,497
1014	Bituminous Surface	1	196,625
1469	Coke	-	-
1015	Auger	-	-
1021	Anthracite Co-Gen	1	218,981
1023	Bituminous Co-Gen	-	-
1025	Anthracite Prep Plant	-	-
1027	Bituminous Prep Plant	1	574,607
	Total	14	\$7,428,478

Sources: Adjusted to On-Level and Post-Act 44 basis in Exhibit XII-C

# Coal Mine Compensation Rating Bureau of Pennsylvania Experience Rating Plan Basic Data Lookup Tables

Exhibit XIII-A 50K-150K Page 1

2020 plan factors at 50k and 150 k splits:

### Table A: Ratemaking Factors

rabio / ii kaleinaking rabiolo						
Year:	2018	2017	2016	Average		
Loss Develop.	1.7322	1.2096	1.1044	split by		
Layers:	Split o	Layer				
0- 50	0.63976	0.41578	0.45140	0.50231		
50-150	0.06473	0.22781	0.15997	0.15084		
Over 150	0.29551	0.35641	0.38863	0.34685		
Trend	1.0468	1.0641	1.0793	1.0000		

#### Table C: Unloaded Loss Costs - Traumatic

Class	ification	Unloaded Loss Cost (1)
1001	Bit deep	6.65
1010	Anth deep	20.12
1012	Anth surf	7.84
1014	Bit surf	1.79
1015	Auger	8.76
1021	Anth Co-gen	5.95
1023	Bit Co-gen	1.32
1025	Anth Prep	4.14
1027	Bit Prep	2.66
1469	Coke	3.73

#### Table B: Payroll Development

		Payroll De-	
Classif	Classification		
1001	Bit deep	1.0058	
1010	Anth deep	1.0000	
1012	Anth surf	1.0083	
1014	Bit surf	1.0000	
1015	Auger	1.0000	
1021	Anth Co-gen	1.0000	
1023	Bit Co-gen	1.0000	
1025	Anth Prep	1.0074	
1027	Bit Prep	1.0170	
1469	Coke	1.0186	

#### Table D: Manual Loss Costs - Traumatic

				Loadings				
		Unloaded	Catastrophe	Small Business	Off-	Manual		Off-*
		Loss Cost	Exh. XII-A	Assessment	Balances#	Loss Cost		Balances
Clas	ssification	(1)	(2)	(3)	(4)	(5)	Merit Rating Exh. XIV-A	1.00
1001	Bit deep	6.65	0.19	1.0001	1.0176	6.96	Safety Rating Exh XIV-B	1.01
1010	Anth deep	20.12	0.19	1.0001	1.0176	20.67	Combined	1.01
1012	Anth surf	7.84	0.03	1.0001	1.0176	8.01		
1014	Bit surf	1.79	0.03	1.0001	1.0176	1.85		
1015	Auger	8.76	0.08	1.0001	1.0176	9.00		
1021	Anth Co-gen	5.95	0.03	1.0001	1.0176	6.09		
1023	Bit Co-gen	1.32	0.03	1.0001	1.0176	1.37		
1025	Anth Prep	4.14	0.03	1.0001	1.0176	4.24		
1027	Bit Prep	2.66	0.03	1.0001	1.0176	2.74		
1469	Coke	3.73	0.03	1.0001	1.0176	3.83		

Table E: Expe	ected Traumatic			•	2018					2017		·			2016	<u> </u>	
Loss	Costs		All La	iyers	Layer 0-50	Layer 50-150	XS over 150	All Lo	ayers	Layer 0-50	Layer 50-150	XS over 150	All Lo	ayers	Layer 0-50	Layer 50-150	XS over 150
		Unloaded	De-trended	Undevel-	Split o	of total losses by	Layer	De-trended	Undevel-	Split o	of total losses by	Layer	De-trended	Undevel-	Split	of total losses by	Layer
Class	ification	Manual	Loss	oped	0.63976	0.06473	0.29551	Loss	oped	0.41578	0.22781	0.35641	Loss	oped	0.45140	0.15997	0.38863
		Loss Cost	Cost*	Losses**	Undevelop	ed Expected L	oss Cost***	Cost*	Losses**	Undevelop	ed Expected L	oss Cost***	Cost*	Losses**	Undevelop	oed Expected L	oss Cost***
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1001	Bit deep	6.65	6.35	3.67	2.35	0.24	1.08	6.25	5.17	2.15	1.18	1.84	6.16	5.58	2.52	0.89	2.17
1010	Anth deep	20.12	19.22	11.10	7.10	0.72	3.28	18.91	15.63	6.50	3.56	5.57	18.64	16.88	7.62	2.70	6.56
1012	Anth surf	7.84	7.49	4.32	2.76	0.28	1.28	7.37	6.09	2.53	1.39	2.17	7.26	6.57	2.97	1.05	2.55
1014	Bit surf	1.79	1.71	0.99	0.63	0.06	0.29	1.68	1.39	0.58	0.32	0.50	1.66	1.50	0.68	0.24	0.58
1015	Auger	8.76	8.37	4.83	3.09	0.31	1.43	8.23	6.80	2.83	1.55	2.42	8.12	7.35	3.32	1.18	2.86
1021	Anth Co-gen	5.95	5.68	3.28	2.10	0.21	0.97	5.59	4.62	1.92	1.05	1.65	5.51	4.99	2.25	0.80	1.94
1023	Bit Co-gen	1.32	1.26	0.73	0.47	0.05	0.22	1.24	1.03	0.43	0.23	0.37	1.22	1.10	0.50	0.18	0.43
1025	Anth Prep	4.14	3.95	2.28	1.46	0.15	0.67	3.89	3.22	1.34	0.73	1.15	3.84	3.48	1.57	0.56	1.35
1027	Bit Prep	2.66	2.54	1.47	0.94	0.10	0.43	2.50	2.07	0.86	0.47	0.74	2.46	2.23	1.01	0.36	0.87
1469	Coke	3.73	3.56	2.06	1.32	0.13	0.61	3.51	2.90	1.21	0.66	1.03	3.46	3.13	1.41	0.50	1.22
1	2	3	4	5	6	7	8	9	10	11	12	13	14	1.5	16	17	18

<sup>\*</sup> Detrended loss costs are calculated by dividing the unloaded manual lost costs (Table C) by the trend factors (table A row 7), and rounding.

<sup>\*\*</sup> The total undeveloped loss costs are calculated by dividing the De-trended loss cost by the Total Limits loss development factor (Table A row 2), and rounding; then the costs are allocated to layers.

<sup>\*\*\*</sup> Detrended, undeveloped loss costs are allocated to layers by the splitting factors (Table A rows 4-6) based on the average shares for the same report age for the latest 6 years, and rounded to 2 decimal places.

### Coal Mine Compensation Rating Bureau of Pennsylvania Experience Rating Plan

Loss Development and Trend Factors by Experience Year

Exhibit XIII-A 50K-150K Page 2

		Reported <u>Losses</u>	<u>LDF</u>	Untrended Developed <u>Losses</u>	Weight: Percent Indemnity vs <u>Medical</u>	Medical Loss evelopment	Indemnity Loss <u>Development</u>	Combined Loss Development Weighted by % indemnity vs medical by year
<u>Indemnity</u>	2016 2017 2018	\$8,661,045 \$8,255,335 \$5,566,332	1.0947 1.2728 2.0500	\$9,481,246 \$10,507,390 <u>\$11,410,981</u> \$31,399,617	66.81% 61.73% <u>63.50%</u> 63.84%	1.1238 1.1076 1.1792	1.0947 1.2728 2.0500	1.1044 1.2096 1.7322
Medical	2016 2017 2018 Total	\$4,190,581 \$5,882,211 \$5,562,604	1.1238 1.1076 1.1792	\$4,709,375 \$6,515,137 \$6,559,423 \$17,783,935 \$49,183,552	33.19% 38.27% <u>36.50%</u> 36.16% 1.0000			
				Years of <u>Trend</u>		Medical / HB 1846 Trend at 2.1%	Indemnity / HB 1840 Trend at <u>1.1%</u>	Combined Trend Weighted by % indemnity vs medical by year
	Average Exp ( Average Exp ( Average Date	date AY 2017 date AY 2018	7/1/2016 7/1/2017 7/1/2018 4/1/2021	4.75 3.75 2.75		1.1038 1.0811 1.0588	1.0671 1.0536 1.0399	1.0793 1.0641 1.0468

Source: Loss Development - Exhibit V-C

Trend - Exhibit V-F

Reported Losses - Exhibit V-B page 1

### 2020 Credibility Tables

PCRB shape

PCRB shape						
	Equivalent					
Expected	Modified					
Losses	Payroll at	Primary	Excess			
Greater than	\$5.40 *	Credibility	Credibility			
14,394	300,000	0.30	0.06			
17,632	326,523	0.31	0.06			
21,218	392,926	0.32	0.06			
23,729	439,431	0.33	0.06			
25,895	479,537	0.34	0.06			
28,223	522,653	0.35	0.07			
31,724	587,481	0.36	0.07			
33,340	617,398	0.37	0.07			
36,148	669,407	0.38	0.07			
39,261	727,048	0.39	0.07			
42,723	791,171	0.40	0.07			
46,173	855,049	0.41	0.07			
50,260	930,736	0.42	0.07			
54,480	1,008,881	0.43	0.07			
58,930	1,091,292	0.44	0.07			
64,137	1,187,728 1,286,294	0.45 0.46	0.07			
69,460 72,885	1,349,720	0.46	0.07 0.07			
75,602	1,400,029	0.48	0.07			
78,457	1,452,911	0.49	0.07			
81,395	1,507,309	0.50	0.07			
84,414	1,563,223	0.51	0.07			
87,590	1,622,044	0.52	0.07			
90,840	1,682,219	0.53	0.07			
94,219	1,744,800	0.54	0.07			
97,737	1,809,949	0.55	0.07			
101,336	1,876,590	0.56	0.07			
105,125	1,946,752	0.57	0.07			
109,027	2,019,009	0.58	0.07			
113,042	2,093,361	0.59	0.07			
117,273	2,171,713	0.60	0.07			
121,605	2,251,947	0.61	0.07			
126,119	2,335,535	0.62	0.07			
130,628	2,419,044	0.63 0.64	0.08 0.08			
135,136 146,976	2,502,519 2,721,780	0.65	0.08			
159,790	2,959,082	0.66	0.08			
174,343	3,228,580	0.67	0.08			
190,774	3,532,857	0.68	0.08			
208,366	3,858,636	0.69	0.08			
228,292	4,227,627	0.70	0.08			
249,705	4,624,167	0.71	0.09			
274,047	5,074,950	0.72	0.09			
302,119	5,594,796	0.73	0.09			
333,210	6,170,556	0.74	0.09			
366,752	6,791,694	0.75	0.10			
407,662	7,549,296	0.76	0.10			
450,677 498,112	8,345,864 9,224,296	0.77 0.78	0.10 0.11			
558,410	10,340,932	0.79	0.11			
624,012	11,555,775	0.80	0.11			
697,648	12,919,407	0.81	0.12			
788,985	14,610,833	0.82	0.13			
894,945	16,573,056	0.83	0.14			
1,018,370	18,858,704	0.84	0.14			
1,157,231	21,430,206	0.85	0.15			
1,321,831	24,478,349	0.86	0.16			
1,528,079	28,297,762	0.87	0.17			
1,528,079	30,964,397	0.87	0.18			
1,795,880	33,257,030	0.88	0.19			
2,120,319	39,265,167	0.89	0.20			
2,505,663	46,401,167	0.90	0.21			
2,505,663 3,000,680	49,908,820 55,568,142	0.90 0.91	0.22 0.23			
3,000,680	62,598,008	0.91	0.23			
3,851,016	71,315,105	0.91	0.24			
3,851,016	78,526,990	0.92	0.26			
4,547,151	84,206,500	0.93	0.27			
4,547,151	99,118,112	0.93	0.28			
6,019,437	111,471,058	0.94	0.29			
6,019,437	126,769,048	0.94	0.30			
6,019,437	144,482,928	0.94	0.31			
6,019,437	165,861,750	0.94	0.32			
6,019,437	192,174,145	0.94	0.33			
6,019,437	225,350,644	0.94	0.34			
6,019,437	268,480,093	0.94	0.35			
6,019,437 6,019,437	326,831,699 410,191,138	0.94 0.94	0.36 0.37			
0,019,43/	410,191,138	0.94	0.31			

Credibility Zp or Ze
= (S\*Payroll+I\*G)/(J\*S\*Payroll+K\*G)
[where S adjusts Payroll to Expected Losses]

Variable	Layer 1	Layer 2
Av Claim G	N/A	11,512
S	N/A	0.054
1	N/A	43.50
J	N/A	2.4000
K	N/A	700.00

<sup>\*</sup> The average unloaded loss cost underlying the proposed filing is \$5.40. the table was updated to reflect this change.

			Proposed		
	Proposed	Proposed	Experience		Change
F:1-	Manual	2020	Rated	2019	in Mod
<u>File</u>	<u>Premium</u>	Mod 0.000	<u>Premium</u>	Mod 0.000	<u>Factor</u>
2	2,093	0.839	1,756	0.828	0.011
37	155,283	1.292	200,626	1.142	0.150
52	7,886	0.786	6,198	0.780	0.006
55	557,947	0.838	467,560	0.687	0.151
66	5,091	0.869	4,424	0.912	-0.043
99	18,846	0.827	15,586	0.835	-0.008
119	114,737	0.930	106,705	0.822	0.108
121	180,084	0.667	120,116	0.657	0.010
124	16,502	0.688	11,353	0.717	-0.029
214	24,959	0.891	22,238	0.941	-0.050
283	16,901	0.652	11,019	0.648	0.004
288	4,294	0.836	3,590	0.833	0.003
306	153,552	1.246	191,326	1.264	-0.018
316	2,898	0.834	2,417	0.826	0.008
325	22,024	0.773	17,025	0.763	0.010
342	2,070	0.834	1,726	0.811	0.023
352	7,123	1.789	12,743	1.740	0.049
354	17,386	1.844	32,060	4.631	-2.787
360	2,180	0.838	1,827	0.834	0.004
370	2,826	0.833	2,354	0.828	0.005
421	10,882	0.774	8,423	0.751	0.023
426	104,279	1.484	154,750	1.334	0.150
652	362,492	0.859	311,381	0.887	-0.028
690	23,528	1.054	24,799	1.257	-0.203
722	3,512	0.805	2,827	0.779	0.026
954	10,530	0.756	7,961	0.714	0.042
1016	7,006	1.177	8,246	0.914	0.263
1037	39,584	0.819	32,419	1.090	-0.271
1158	2,195	0.842	1,848	n/a	n/a
1361	2,261	0.837	1,892	0.837	0.000
1444	416,873	1.075	448,138	1.221	-0.146
1700	28,379	0.755	21,426	0.722	0.033
2353	11,299	0.797	9,005	0.794	0.003
2458	10,040	0.828	8,313	n/a	n/a
2687	41,749	0.728	30,393	0.761	-0.033
2839	30,028	1.163	34,923	1.058	0.105
3157	29,453	0.792	23,327	0.785	0.007
3190	6,483	0.776	5,031	0.743	0.033
3194	2,727	1.200	3,272	0.811	0.389
3527	3,019	0.858	2,590	0.863	-0.005
3552	8,612	0.777	6,692	1.827	-1.050
3614	42,409	1.790	75,912	1.161	0.629
3619	15,084	0.820	12,369	0.802	0.018
3629	28,464	0.792	22,543	0.782	0.010
3691	61,886	1.470	90,972	1.167	0.303

			Proposed		
	Proposed	Proposed	Experience		Change
	Manual	2020	Rated	2019	in Mod
<u>File</u>	<u>Premium</u>	<u>Mod</u>	<u>Premium</u>	<u>Mod</u>	<u>Factor</u>
3798	2,329	0.835	1,945	0.813	0.022
3804	11,664	0.737	8,596	0.680	0.057
3932	8,189	0.775	6,346	0.767	0.008
3944	6,412	0.786	5,040	0.757	0.029
3977	56,944	1.055	60,076	1.018	0.037
3978	6,850	0.830	5,686	0.777	0.053
3981	2,881	0.833	2,400	0.820	0.013
3982	20,634	1.300	26,824	1.104	0.196
3988	8,988	0.817	7,343	0.811	0.006
3994	0	0.852	0	0.819	0.033
3997	2,516	0.834	2,098	0.814	0.020
4001	1,755	0.772	1,355	0.655	0.117
4011	372,475	0.583	217,153	1.033	-0.450
4016	0	0.761	0	1.654	-0.893
4024	22,331	0.827	18,468	1.046	-0.219
4025	9,720	0.828	8,048	0.880	-0.052
4030	3,239	0.803	2,601	1.857	-1.054
4031	39,778	1.069	42,523	1.055	0.014
4042	43,702	1.310	57,250	0.670	0.640
4044	149,725	0.783	117,235	1.043	-0.260
4052	39,553	0.641	25,353	0.737	-0.096
4054	2,275	1.200	2,730	0.850	0.350
4058	18,424	0.691	12,731	0.695	-0.004
4060	0	0.818	0	1.007	-0.189
4062	4,821	1.181	5,694	1.400	-0.219
4063	378	0.835	316	0.799	0.036
4072	468,756	0.833	390,474	0.846	-0.013
4077	711,939	1.224	871,413	1.060	0.164
4078	88,108	1.129	99,474	0.854	0.275
4081	2,674	0.820	2,193	0.798	0.022
4089	11,138	0.815	9,077	0.959	-0.144
4094	41,871	1.225	51,292	0.679	0.546
4096	1,902	0.841	1,600	0.826	0.015
4100	4,150,781	1.024	4,250,400	1.026	-0.002
4101	0	0.840	0	0.905	-0.065
4103	23,306	0.803	18,715	0.800	0.003
4104	2,215,630	1.025	2,271,021	1.091	-0.066
4110	15,318	0.718	10,998	0.766	-0.048
4114	24,404	0.735	17,937	0.772	-0.037
4116	9,618	0.925	8,897	n/a	n/a
4118	5,903	0.797	4,705	n/a	n/a
4120	45,283	0.755	34,189	0.803	-0.048
999011	43,649	0.800	34,919	1.300	-0.500
999013	37,845	0.813	30,768	2.150	-1.337
999019	529,986	0.932	493,947	0.885	0.047
	027,700	0.702	., 0,, 1,	0.000	0.0 17

### Coal Mine Compensation Rating Bureau of Pennsylvania Experience Rating 2020 Mod Comparisons

Exhibit XIII-B Page 3

			Proposed		
	Proposed		Experience		Change
	Manual	2020	Rated	2019	in Mod
<u>File</u>	<u>Premium</u>	<u>Mod</u>	<u>Premium</u>	Mod	<u>Factor</u>
999020	12,682	0.745	9,448	1.523	-0.778
999024	7,686	0.824	6,333	0.819	0.005
999038	102,471	0.970	99,397	0.784	0.186
999039	65,402	1.393	91,105	1.250	0.143
999051	69,038	1.433	98,931	1.125	0.308
999052	1,034,586	0.955	988,030	1.750	-0.795
999053	54,075	0.993	53,696	2.608	-1.615
999061	0	1.200	0	0.791	0.409
999063	792,052	0.812	643,146	1.101	-0.289
999065	3,208,603	1.044	3,349,782	0.813	0.231
999075	3,551	0.823	2,922	1.910	-1.087
999077	57,092	2.256	128,800	0.719	1.537

# Coal Mine Compensation Rating Bureau of Pennsylvania Experience Rating 2020 Mod Comparisons

The following files have indicated increases or decreases in their Experience Mods of greater than 0.35 as displayed on Exhibit XIII-B, pages 1-3. This list includes all files with increases or decreases of this magnitude. It is proposed that the indicated increases or decreases be limited to a maximum of 0.35. Below are the affected files, their current mod and their proposed mod. If approved, the below stated limited mod would apply to the respective file number.

### Experience Mod Caps (plus or minus 0.35)

		Proposed	
	2019	2020	Limited
File	Mod	Mod	Mod
354	4.631	1.844	4.281
3194	0.811	1.200	1.161
3552	1.827	0.777	1.477
3614	1.161	1.790	1.511
4011	1.033	0.583	0.683
4016	1.654	0.761	1.304
4030	1.857	0.803	1.507
4042	0.670	1.310	1.020
4094	0.679	1.225	1.029
999011	1.300	0.800	0.950
999013	2.150	0.813	1.800
999020	1.523	0.745	1.173
999052	1.750	0.955	1.400
999053	2.608	0.993	2.258
999061	0.791	1.200	1.141
999075	1.910	0.823	1.560
999077	0.719	2.256	1.069

File: c:\2019 Rate Filing\XL\[2019-13-B.xlsm]13-C

### MERIT RATING PLAN OFF-BALANCE CALCULATION

MERIT RATING PLAN OFF-BALANCE C.	ALCULATION (1)	(2) Traumatic	(3)	(4)	
	2018	Proposed			
Clave	Developed	Unloaded	Credits/	Loss Cost	Off Dalam
<u>Class</u> Underground Anthracite (1010)	<u>Payroll</u>	Loss Cost	<u>Surcharge</u>	<u>Premium</u>	<u>Off-Balance</u>
Total	\$183,346	20.12		\$36,889	
Credit	0	20.12	-5.00%	0	
Surcharge	0	20.12	5.00%	0	
Underground Bituminous (1001)					
Total	\$179,699,685	6.65		\$11,950,029	
Credit	0	6.65	-5.00%	0	
Surcharge	0	6.65	5.00%	0	
Surface Anthracite (1012)					
Total	\$19,677,526	7.84		\$1,542,718	
Credit	221,562	7.84	-5.00%	-869	
Surcharge	0	7.84	5.00%	0	
Surface Bituminous (1014)					
Total	\$35,266,431	1.79	F 000	\$631,269	
Credit	1,891,631	1.79	-5.00% 5.00%	-1,693	
Surcharge	0	1.79	5.00%	0	
Coke (1469)	# 1 1E / 70E	0.70		¢1// 000	
Total Credit	\$4,456,795	3.73 3.73	-5.00%	\$166,238	
Credii Surcharge	0	3.73 3.73	-5.00% 5.00%	0	
	O	5.75	0.0076	0	
Auger (1015) Total	\$560,126	8.76		\$49,067	
Credit	74,030	8.76	-5.00%	-324	
Surcharge	0	8.76	5.00%	0	
Anthracite Co-Gen (1021)					
Total	\$11,591,488	5.95		\$689,694	
Credit	0	5.95	-5.00%	0	
Surcharge	0	5.95	5.00%	0	
Bituminous Co-Gen (1023)					
Total	\$11,996,610	1.32		\$158,355	
Credit	4,630	1.32	-5.00%	-3	
Surcharge	0	1.32	5.00%	0	
Anthracite Prep Plant (1025)					
Total	\$9,643,085	4.14		\$399,224	
Credit	54,193	4.14	-5.00%	-112	
Surcharge	0	4.14	5.00%	0	
Bituminous Prep Plant (1027)					
Total	\$32,053,553	2.66		\$852,625	
Credit	0	2.66	-5.00%	0	
Surcharge	0	2.66	5.00%	0	
All Classes Combined					
Total	\$305,128,645			\$16,476,108	
Credit	2,246,046		-5.00%	-3,001	
Surcharge	0		5.00%	0	
				\$16,473,107	1.0002

Source: (1) Exhibit XIV-A Page2 (2) Exhibit II

(4)=(1)\*(2)\*(3)

 PAB Effective Date - April 01, 2020 Checksum:664,170,910.880200

### 2018 PAYROLL BY CLASS

	2018	2018	2018	
	Total	Experience	Merit	2018
	Developed	Rated	Rated	Manual
Class	<u>Payroll</u>	<u>Payroll</u>	<u>Payroll</u>	<u>Payroll</u>
Underground Anthracite (1010)	\$183,346	\$183,346	\$0	\$0
Underground Bituminous(1001)	179,699,685	179,500,669	0	199,016
Surface Anthracite (1012)	19,677,526	19,326,090	221,562	129,874
Surface Bituminous (1014)	35,266,431	31,768,187	1,891,631	1,606,613
Coke (1469)	4,456,795	4,456,795	0	0
Auger (1015)	560,126	148,498	74,030	337,598
Anthracite Co-Gen (1021)	11,591,488	10,627,270	0	964,218
Bituminous Co-Gen (1023)	11,996,610	11,561,116	4,630	430,864
Anthracite Prep Plant(1025)	9,643,085	8,716,878	54,193	872,014
Bituminous Prep Plant (1027)	32,053,553	31,778,594	<u>0</u>	274,959
TOTAL	\$305,128,645	\$298,067,443	\$2,246,046	\$4,815,156

### MERIT PAYROLL - CREDIT/SURCHARGE

MERNITATION OR STRUCT				
	2018	2018	2018	2018
	Merit	Merit	Merit	Merit
	Rated	Credit	No Adjustment	Surcharge
Class	<u>Payroll</u>	<u>Payroll</u>	<u>Payroll</u>	<u>Payroll</u>
Underground Anthracite (1010)	\$0	\$0	\$0	\$0
Underground Bituminous(1001)	0	0	0	0
Surface Anthracite (1012)	221,562	221,562	0	0
Surface Bituminous (1014)	1,891,631	1,891,631	0	0
Coke (1469)	0	0	0	0
Auger (1015)	74,030	74,030	0	0
Anthracite Co-Gen (1021)	0	0	0	0
Bituminous Co-Gen (1023)	4,630	4,630	0	0
Anthracite Prep Plant(1025)	54,193	54,193	0	0
Bituminous Prep Plant (1027)	0	0	0	0
TOTAL	\$2,246,046	\$2,246,046	\$0	\$0

Source: Exhibit X-A and CMCRB database as of 4/30/2019

# COAL MINE COMPENSATION RATING BUREAU SAFETY COMMITTEE CREDIT OFFSET

	(1)	(2)	(3)	(4)	
	2018	Traumatic Proposed		Loss Cost	
<u>CLASS</u>	Developed <u>Payroll</u>	Unloaded Loss Cost	<u>Credit</u>	<u>Premium</u>	Off-Balance
Underground Anthracite(1010) Total	¢102 244	\$20.12		\$27.000	
Safety Committee	\$183,346 0	20.12	-5.00%	\$36,889 0	
Underground Bituminous(1001)					
Total	179,699,685	6.65	E 000	\$11,950,029	
Safety Committee	61,748,681	6.65	-5.00%	(205,314)	
Surface Anthracite(1012)					
Total	19,677,526	7.84		\$1,542,718	
Safety Committee	8,437,719	7.84	-5.00%	(33,076)	
Surface Bituminous(1014)					
Total	35,266,431	1.79		\$631,269	
Safety Committee	5,188,654	1.79	-5.00%	(4,644)	
Coke(1469)					
Total	4,456,795	3.73		\$166,238	
Safety Committee	0	3.73	-5.00%	0	
Auger(1015)					
Total	\$560,126	8.76		\$49,067	
Safety Committee	0	8.76	-5.00%	0	
Anthracite Co-gen(1021)					
	11,591,488	5.95		\$689,694	
Safety Committee	3,091,233	5.95	-5.00%	(9,196)	
D'					
Bituminous Co-gen(1023)	11.007.710	1 20		¢150 255	
Total Safety Committee	11,996,610 0	1.32 1.32	-5.00%	\$158,355 0	
Surery Corrillinee	O	1.52	-5.00%	O	
Anthracite Prep Plant(1025)					
Total	9,643,085	4.14		\$399,224	
Safety Committee	2,758,619	4.14	-5.00%	(5,710)	
Bituminous Prep Plant(1027)					
Total	32,053,553	2.66		\$852,625	
Safety Committee	17,960,886	2.66	-5.00%	(23,888)	
All Classes Combined					
Total	305,128,645			16,476,108	
Safety Committee	99,185,792			(281,828)	
				16,194,280	1.0174

Source: (1) Exhibit X-A and CMCRB Database as of 4-30-2019

(2) Exhibit II (4)=(1)\*(2)\*(3)