UNITED STATES BANKRUPTCY COURT
EASTERN DISTRICT OF MISSOURI
EASTERN DIVISION

In re:	**Chapter 11**
	Case No. 12-51502-659
PATRIOT COAL CORPORATION, *et al.,*	**(Jointly Administered)**
Debtors.	**Objection Deadline:** **April 12, 2013 at 4 p.m. CDT**
	Hearing Date: **April 29 to May 3, 2013 at 10 a.m.** **CDT**
	Hearing Location: **Courtroom 7 North**

DECLARATION OF SRINIVAS AKUNURI IN OPPOSITION TO THE DEBTORS' MOTION TO REJECT COLLECTIVE BARGAINING AGREEMENTS AND TO MODIFY RETIREE BENEFITS PURSUANT TO 11 U.S.C. §§1113 AND 1114

Srinivas Akunuri declares pursuant to 28 U.S.C. §1746:

1.   I was retained on March 25, 2013, by the United Mine Workers of America ("UMWA") as an expert consultant with respect to the Chapter 11 case of Patriot Coal Corporation ("Patriot" or "Debtors"). PricewaterhouseCoopers, L.L.P. was retained as an advisor by the UMWA on September 19, 2012. My firm is compensated on a fixed monthly fee of $75,000 and has the right to request an additional fee (the "Restructuring Fee") at the end of the engagement. I make this declaration in opposition to the Debtors' proposed motion to reject collective bargaining agreements and to modify retiree benefits pursuant to 11 U.S.C. §§1113 and 1114. I have been asked to provide an analysis of the economic results to the proposed Patriot business plan, if any, of utilizing thermal coal prices I deem to be reasonable in this

situation. This declaration is based upon my own personal knowledge, my review of the record in this matter, published materials in the field of my expertise on which experts often reasonably rely and have been peer reviewed, the Declaration of Seth Schwartz in support of Patriot's §1113 and 1114 proposals, and my professional knowledge and expertise. I am competent to testify to all facts contained in this declaration.

2.   My work experience includes the following: I am a Principal in the Houston office of PricewaterhouseCoopers, L.L.P. and the leader of PricewaterhouseCoopers' energy valuation practice. I have been employed by PricewaterhouseCoopers as a Valuation Principal since 2005. I have more than 16 years of work experience as a valuation specialist, during which I have consulted with numerous energy and mining clients on valuation issues. Prior to my work at PricewaterhouseCoopers, I was employed as a valuation specialist at Standard & Poor's Corporate Value Consulting.

3.   I have performed valuation analysis on numerous oil & gas and mining companies, which included the valuation of oil & gas and mining reserves, inventory, intangible assets[1], and contingent consideration[2]. In performing my valuation analysis for coal companies I considered factors such as the location and type of coal being produced and sold; the outlook regarding prices for each type of coal, and the cost structure of the subject entity. In the course of evaluating the outlook regarding prices for coal it is necessary to also evaluate the market for other commodities that can substitute for coal, such as natural gas. These engagements required me to develop an expertise concerning the factors that drive the price of coal, natural gas and other commodities.

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[1] Intangible assets refers to assets that lack physical substance such as a brand name, trade mark or customer relationships. In the mining industry a typical intangible asset is, for instance, above- or below- market contract values.
[2] Contingent consideration represents the obligation of an acquirer to transfer additional assets (e.g. cash or shares) to the former owners of a company as part of the exchange for control if certain future events occur.

4.   The following includes my educational background and professional associations: I have a Bachelor of Commerce degree from Osmania University, a Master of Commerce degree from the University of Delhi and a Master of Business Administration degree from Tulane University.   My professional certifications include Accredited Senior Appraiser with the American Society of Appraisers, Accredited Valuation Analyst with the National Association of Certified Valuators and Analysts, and Certified Business Appraiser with the Institute of Business Appraisers.

5.   My curriculum vitae is attached as **Exhibit A** to my declaration.

6.   A list of sources that I considered in forming my opinions, which are expressed in this declaration, is attached as **Exhibit B** to my declaration.

SUMMARY OF OPINIONS

7.   In my opinion, Patriot's conclusion that the 11 U.S.C. §§ 1113 and 1114 proposals as presented to the UMWA must be adopted to ensure Patriot's survival is premised on what I believe to be erroneous assumptions that the reduced demand for coal and declining coal prices are permanent. The available data I have analyzed tend to show that natural gas prices are rising and will continue to rise, which will in turn at least slow down the displacement of thermal coal by natural gas as the energy source for electricity generation. Thermal coal prices are already experiencing a recovery and there are a number of market indicators showing that thermal coal prices will continue to experience a recovery. Patriot's thermal coal price forecasts are understated, which is inconsistent with various third-party data, and do not, therefore, reliably present a reasonable position for inclusion in the Patriot business plan. If more reasonable coal price projections are used, Patriot's revenue will likely increase in the range of

(**Figure 5**), assuming its currently projected levels of production. Based on

these more reasonable projections, Patriot's business plan is economically viable without at least most of the 11 U.S.C. §1113 and 1114 savings that it is requesting from the UMWA.

8.   Prices of commodities such as oil, gasoline, coal, and natural gas are often driven by supply and demand. Therefore, when there is a disruption to the supply of a commodity, the price of the commodity will tend to rise. One example of this is when a gasoline refinery goes offline, thus threatening the supply of gasoline, which in turn results in the rise of gasoline prices. Similarly, when there is an easing of the supply crunch for a commodity, the price for the commodity will tend to decrease. In such cases the decrease in the price of the commodity is often evidence of the easing of supply concerns, rather than evidence that the price of the commodity will continue to drop for reasons other than the resolved supply disruption.

9.   When a commodity is a raw material in the production of a finished product, an increase in the production of the finished product may increase the demand for the commodity, which may in turn drive up the price of the commodity.

DETAILED OPINIONS

**IN MY OPINION, PATRIOT'S CONCLUSION THAT THE U.S.C. §§ 1113 AND 1114
PROPOSALS AS PRESENTED TO THE UNION MUST BE ADOPTED TO ENSURE
PATRIOT'S SURVIVAL IS PREMISED ON WHAT I BELIEVE TO BE ERRONEOUS
ASSUMPTIONS THAT THE REDUCED DEMAND FOR COAL AND DECLINING
COAL PRICES ARE PERMANENT.**

10.   The thermal coal market, although depressed in the last 2 years, is expected to

recover. The decline in the market for thermal coal over the past few years was primarily caused

by U.S. power producers switching from coal to natural gas as natural gas prices fell to a ten-

year low of $1.82[3] in 2012. A switch from natural gas back to coal will occur when natural gas

prices increase, making thermal coal a more economic option once again. In fact, natural gas

prices have already increased to above $4 per one million British Thermal Units ("MMBTUs")

for May 2013 contract deliveries[4] and there are strong market indicators that they will continue

to increase.

11.   One indicator of the expected increase in natural gas prices is the trading prices of

natural gas futures contracts. Natural gas futures prices provide an indication of the market's

perception of commodity price trends. Market participants utilize these prices to hedge future

production, trade upon and price their assets. As of March 27, 2013, the market priced natural

gas futures contracts at an average of $4.12/MMBTU (average of futures prices for April 2013 to

December 2013.[5]), a significant increase from the average market price of $2.79/MMBTU in

2012[5]. Mr. Schwartz is therefore incorrect in claiming that investors do not expect natural gas

prices to exceed $4.10/MMBTU until the end of 2014[6]. Additionally, Henry Hub[7] futures prices

(**Figure 1** below) illustrate market participants are currently expecting natural gas prices to be at

$5.00/MMBTU by the end of 2018.

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[3] Energy Information Administration, Henry Hub Gulf Coast natural gas spot price, 4/1/2003-3/28/2013.
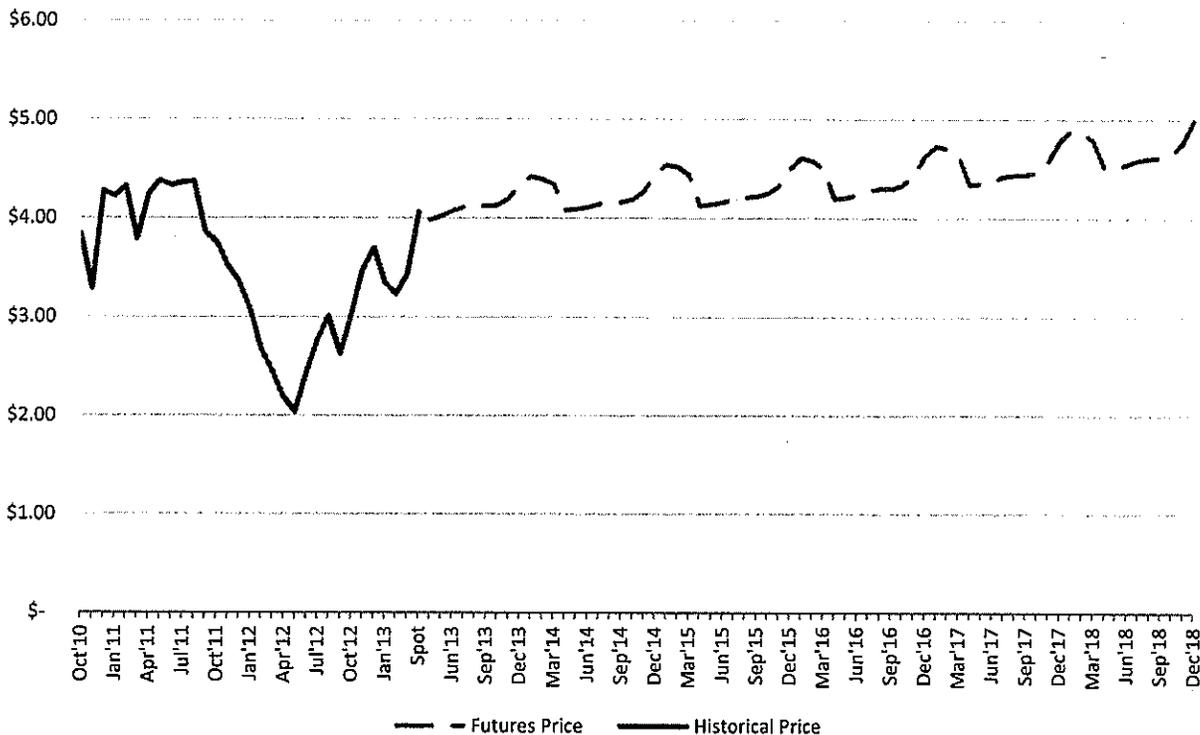
[4] Shafto, Jodi. "May natural gas settles at 18-month high at $4.068/MMBtu." *SNL Financial*. March 27, 2013.

[5] Capital IQ-Henry Hub natural gas prices.

[6] Schwartz Declaration, paragraph 19.

[7] Spot and future prices set at Henry Hub are generally seen to be the primary price set for the North American
natural gas market.

Figure 1
Natural Gas Futures Prices ($/Mmbtu)

Source: Henry Hub

12.   The effect of recent increases in natural gas prices can already be seen in the thermal coal market. As shown in **Figure 2** below, the trend of coal-to-gas switching appears to have abated with the percentage of U.S. electric generation using natural gas dropping from 32% in April 2012 to 26%, while the percentage of U.S. electric generation using coal increased from 32% to 42% over the same period[8]. During the same period, natural gas prices rose from $2.04/MMBTU in April of 2012 to $3.47/MMBTU in November 2012[9]. Various published studies have detailed the economic impacts of switching from coal to natural gas including one most recently published by SNL Energy[10].

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[8] Calculated from U.S. Energy Information Administration February 2013 Monthly Energy Review. Table 7.2a.
Electricity Net Generation: Total (All Sectors)
[9] Capital IQ-Henry Hub natural gas prices as of March 27, 2013.
[10] SNL Energy Prospects for coal-to-gas switching in 2013, February 2013.

13.   At natural gas prices below \$2.70/MMBTU (February 2012 to June 2012)[11], switching from coal to gas was pervasive but as gas prices recovered to levels above \$3.50/MMBTU at the end of 2012[11], demand for coal trended back to historical levels, as shown in **Figure 2**. As natural gas prices continue to rise to above \$4.00/MMBTU, I would expect a further disincentive for utility companies to switch from coal to natural gas electricity generation.

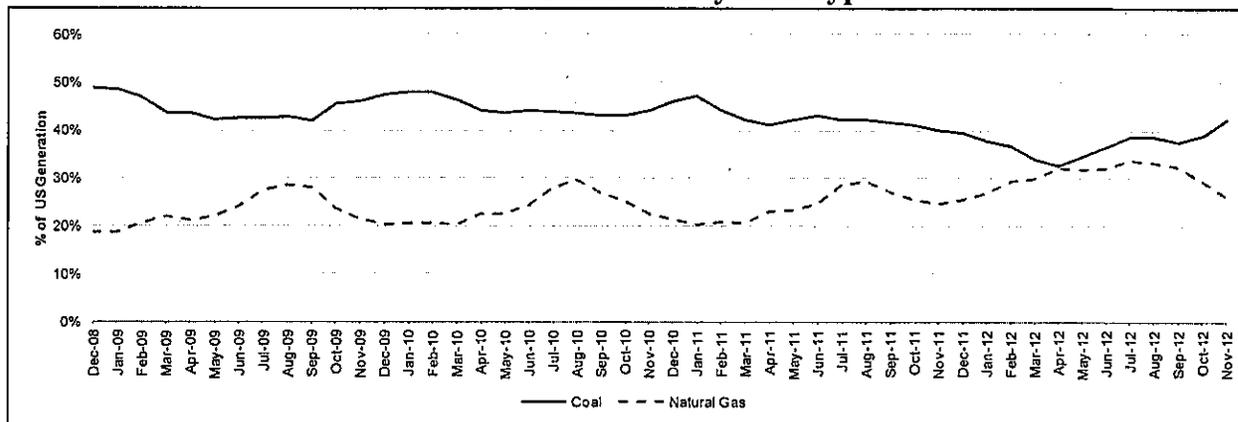**Figure 2**
U.S. Power Generation by Fuel Type

Source: Calculated from U.S. Energy Information Administration February 2013 Monthly Energy Review. Table 7.2a. Electricity Net Generation: Total (All Sectors)

14.   Other key leading indicators of natural gas supply and demand - storage levels, rig counts, production and LNG projects - point to an increase in natural gas prices, which would likely lead to the increased use of thermal coal as the preferred energy source for electricity generation. In the paragraphs below I will explain the significance of each of the market indicators.

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[11] Capital IQ-Henry Hub natural gas prices as of March 27, 2013.

Figure 3
Factors Affecting Natural Gas Supply/Demand and Prices

Factor	Market Condition	Impact on Natural Gas Prices	Impact on Thermal Coal Prices
Inventory storage levels[12]	Declining	⇧	⇧
U.S. natural gas rig count[13]	Declining	⇧	⇧
Breakeven point of key shale plays[14]	High	⇧	⇧
LNG export projects[15]	Increasing	⇧	⇧

15.   **Inventory storage levels:** A decline in natural gas storage levels is a leading indicator of a potential trend in the natural gas market where the ratio of demand to supply will increase and is highly correlated with price increases. When the storage levels are low, markets interpret this as a smaller level of inventory of natural gas to supply current and future needs therefore prices will rise. On the other hand, when storage levels are high, markets interpret this as a larger level of inventory of natural gas to supply current and future needs therefore prices will fall. Since reaching record levels in 2012, natural gas storage levels have declined approximately 21%[16] and prices have doubled over the same period[17].

16.   **U.S. natural gas rig count:** The number of natural gas rigs under contract is a leading indicator used to assess future natural gas supply and the resulting effect on prices. More natural gas rigs drilling generally mean companies have a positive outlook on the natural gas pricing environment. Conversely, additional rigs drilling for natural gas can also be indicative of

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[12] See Exhibit C attached to this declaration.

[13] See Exhibit D attached to this declaration.

[14] Tudor Pickering Holt & Co. Presentation: Industry M&A Trends, Opportunities Outlook; November 13, 2012; page 10.

[15] See Exhibit E attached to this declaration.

[16] SNL Financial, US Historical Gas Storage Levels.

[17] Energy Information Administration-Henry Hub natural gas spot price.

future supply as more rigs drilling imply more production. Therefore, market participants monitor rig counts to develop a view of the future expected supply of natural gas. The number of natural gas rigs has declined by approximately 55% from November 2011 to March 2013[18] in response to declining prices. As a result of these low price levels, the production levels of natural gas has started to decline as it became less economical for upstream natural gas companies to produce more natural gas. The reduction in production levels will lead to a softening in the natural gas supply and an increase in prices.

17.   **Breakeven point of key shale regions:** The higher the breakeven point for a given shale region, the less incentive there is to produce natural gas in that region. A breakeven[19] analysis of the Natural Gas Basin Economics, published by Tudor Pickering Holt & Co., shows that when natural gas prices are below the $4.00/MMBTU to $4.50/MMBTU range, it is not economical for producers in a number of key shale regions to produce natural gas[20]. With the current price at approximately $4.00/MMBTU[21], producers may not be incentivized to produce natural gas unless prices continue to recover. A reduction in production levels will lead to a softening in the natural gas supply and an increase in prices.

18.   **LNG export projects:** Another factor that will constrain future supplies of natural gas and support a sustained price recovery for the commodity is the increasing number of liquefied natural gas projects coming on-stream. These projects are expected to remove approximately 0.9 trillion cubic feet ("Tcf") of natural gas per year from U.S. supplies in 2013, increasing to approximately 2.3 Tcf per year in 2016 and 2.5 Tcf per year in 2019[22]. This

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[18] Baker Hughes rig count, March 28, 2013

[19] Tudor Pickering Holt & Co. defines breakeven as the minimum required rate of return to induce a company to produce a 10% rate of return. The 10% return is required by the US. Securities and Exchange Commission in certain financial disclosures and over time this rate has become an industry benchmark or hurdle rate used to evaluate oil and gas investments.

[20] Tudor Pickering Holt & Co. Presentation: Industry M&A Trends, Opportunities, Outlook; November 13, 2012; page 10.

[21] Capital IQ, Henry Hub Natural Gas Prices

[22] See Exhibit E attached to this declaration.

represents nearly 10% of the current total annual marketed U.S. natural gas. These LNG projects

seek to exploit a favorable natural gas pricing environment in overseas markets such as Asia,

where gas prices are significantly higher. Thus, this new source of demand for U.S. natural gas

through LNG exports may also support higher prices.

**PATRIOT'S COAL PRICE FORECASTS ARE UNDERSTATED, WHICH IS
INCONSISTENT WITH VARIOUS THIRD-PARTY DATA AND DO NOT,
THEREFORE, RELIABLY PRESENT A REASONABLE POSITION FOR INCLUSION
IN THE PATRIOT BUSINESS PLAN**

19.   In order to assess the reasonableness of Patriot Management's ("Management")

thermal coal price assumptions embedded in their 5 year business plan, I compared their thermal

coal prices to third-party data providers, including SNL Energy[23] and Wood Mackenzie[24.] Both

are regularly relied upon by experts in the industry for such purposes. SNL Energy and Wood

Mackenzie publish mine prices for various types of coal located in various regions in the United

States. Based on information on thermal coal products produced by Patriot as shown on its five

year business plan, I matched the coal at each complex to similar coal used by SNL and Wood

Mackenzie. Where noted, and as reflected in **Figure 4**, I adjusted each SNL price to reflect any

differences between Patriot and SNL coal for heat content, transportation differentials and sulfur

content. In the case of forecasted prices published by Wood Mackenzie, my team spoke with

Wood Mackenzie analysts to select the appropriate forecast based on the previously selected

SNL prices. In addition, Wood Mackenzie also considered the impact of new environmental

regulations as outlined in Schwartz's declaration (paragraph 24). Similar adjustments were also

made for heat content, transportation differentials and sulfur content. **Exhibit F** contains the

underlying calculations for each of the adjusted prices.

20.

The adjusted prices in Figure 4 are

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[23] SNL Energy Coal Price Outlook, February 28, 2013
[24] Wood Mackenzie Coal Market Service, November 2012

weighted average prices calculated by using Patriot's own projection of complex by complex

production over the period 2013 to 2016 obtained from Management's 5 year business plan.

Figure 4
Comparison of Average Thermal Coal Prices
(Price per ton)

PATRIOT'S BUSINESS PLAN IS ECONOMICALLY VIABLE WITHOUT THE 11 U.S.C. §§ 1113 AND 1114 PROPOSALS.

21.   Given the understated prices included in Management's thermal coal forecast, I

performed sensitivity analysis to assess the impact of increased pricing on the profitability of

Patriot. The profitability of Patriot is significantly improved as prices improve. For coal

companies in general, and Patriot specifically, market coal prices are the primary driver of

profitability.

22.   In performing my sensitivity analysis I used the assumption that Patriot's total

thermal coal production is

. In my opinion, my assumptions in projecting Patriot's thermal coal production

are reasonable because

utilized independently prepared forecasts as adjusted for

quality and transportation differentials, where appropriate (**Exhibit F**).

23.   Utilizing reasonable coal prices, revenue   when adjusted SNL and Wood

Mackenzie prices are used in place of Management's forecast, as shown in **Figure 5** below.

Figure 5
Comparison of Thermal Revenue Levels Based on Average Thermal Coal Prices
($ and Tons in 000s)

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[25] Business plan mine-level profit & loss statements provided by Management. In performing our sensitivity analysis we noted that the company may have already sold some of its un-priced tonnage for the year to date and therefore the sensitivities shown for 2013 may not be an accurate reflection of the potential impact of increased prices on thermal coal revenues.

CONCLUSION

24.   Mr. Schwartz and Patriot assume that both coal and natural gas prices are permanently depressed, thus implying that thermal coal will always be an uneconomical fuel for the generation of electricity. I understand that historic shifts have occurred in the coal markets. Our analysis, however, clearly indicates that coal is rebounding and correcting from market lows that occurred as a result of these shifts in the markets. The recent recovery of natural gas prices and the expected positive outlook appears to have at least slowed down the trend of coal-to-gas switching and the key leading indicators for natural gas supply and demand support a positive pricing outlook for the U.S. natural gas and thermal coal markets.

25.   Patriot and Mr. Schwartz conclude that Patriot cannot survive unless it is allowed to adopt the 11 U.S.C. §§ 1113 and 1114 proposals[26] as presented. Based upon my analysis of the outlook for both the natural gas and coal markets, Patriot's projections for future thermal coal prices are   , which in turn has caused Patriot to   the revenue that it will receive during the years of 2013-2016, and

[27]. I believe my analysis uses reasonable thermal coal prices which results in higher revenues and profits. Therefore, in my opinion, Patriot's conclusion that the U.S.C. §§ 1113 and 1114 proposals as presented to the union must be adopted to ensure the company's survival is premised on what I believe to be erroneous assumptions that the reduced demand for coal and declining coal prices are permanent.

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[26] Schwartz Declaration, page 3, second bullet.

[27] I was informed by the UMWA that Patriot has taken the position that it needs $150 million in §§ 1113 and 1114 savings in each year between 2013 and 2016.

Pursuant to 28 U.S.C. §§ 1746, I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Houston, Texas
Dated: April 3, 2013

/s/ Srinivas Akunuri
Srinivas Akunuri
Principal
PricewaterhouseCoopers LLP

Exhibit A

RESUME OF SRINIVAS AKUNURI

Srinivas Akunuri, Principal

RANGE OF EXPERIENCE

Srinivas is a principal in PwC's Transaction Services Valuation practice and has more than 16 years of experience in the valuation of businesses in a variety of industries, with a primary focus of energy and mining. He currently leads PwC's energy valuation practice in Houston, Texas. Srinivas has consulted with energy and mining clients on complex valuation issues for structuring, buy-side, sell-side, tax and financial reporting purposes including purchase price allocations, goodwill and intangible asset impairments (ASC 805, ASC 350 , ASC 360) and U.S. (IRC Section 338 and 1060) and international tax purposes.

He also supports PwC audit and non-audit clients on valuation-related issues surrounding the acquisition or divestiture of oil and gas reserves, mineral reserves, pipelines, refineries, intangible assets, and impairment testing.

PROFESSIONAL AND BUSINESS HISTORY

PricewaterhouseCoopers: Valuation Principal 2005 to Present

Standard & Poor's Corporate Value Consulting: Valuation Specialist 2001 to 2005

PROFESSIONAL AND BUSINESS EXPERIENCE

- Valuation of businesses in connection with a sale, merger, acquisition, dispute, tax, or other advisory;

- Valuation of intangible assets, including but not limited to patents, trademarks, and brands;

- Valuation for financial reporting purposes in connection with ASC 805, ASC 350, ASC 360, IRC Section 338, and IRC Section 1060;

- Valuation of businesses and assets including intellectual property in connection with corporate restructuring and bankruptcy;

SELECT ENERGY AND MINING EXPERIENCE

- Valuation of coal reserves, inventory, intangible assets and contingent consideration for a U.S. coal producer's acquisition of a U.S. coal mining company;

- Valuation of coal related projects for a North American pension fund including a coal gasification project, a coal-fired power generation facility, and coal bed methane production royalty rights;

- Valuation of gold, nickel and base metal royalties related to the acquisition of a publically traded gold royalty company;

- Valuation of mineral and exploration gold properties in South America, Canada, and Asia-Pacific;

- Valuation of oil and gas reserves for exploration and production companies;

- Valuation of shale gas reserves and undeveloped acreage;

- Valuation of tangible and intangible assets related to acquisition of pipeline companies;

- Valuation for a joint venture of multiple refineries, pipeline assets, and terminaling assets;

- Valuation, purchase price allocation, and accounting advisory work related to the acquisition of a refining

Exhibit A

RESUME OF SRINIVAS AKUNURI

business unit;

- Valuation of oil field services companies relating to the acquisition of drilling rigs, construction work in progress, and contract intangibles;

- Valuation of goodwill impairment in connection with the disposal of a fleet of drilling rigs.

PROFESSIONAL AND BUSINESS AFFILIATIONS

American Society of Appraisers (Accredited Senior Appraiser)

National Association of Certified Valuators and Analysts (Accredited Valuation Analyst)

Institute of Business Appraisers (Certified Business Appraiser)

EDUCATION

Tulane University - Master of Business Administration

University of Delhi - Master's in Commerce

Osmania University - Bachelor's in Commerce

PUBLICATIONS

- Contributing author: "Petroleum Accounting Principles, Procedures, & Issues," Professional Development Institute, Denton, TX, 2011.

- Author: "Valuing the Great Shale Play," PricewaterhouseCoopers LLP, 2011.

- Co-author: "Mergers and Acquisitions Complicated by New Accounting Rules," Oil & Gas Financial Journal, November 1, 2008.

Exhibit B

MATERIALS CONSIDERED

I.   **Resources from Patriot's Data Room**

- Business Plan Model (Data Room Item 1.2.2.3)

- Complex-Level EBITDAs (Data Room Item 1.2.11.1)

- Financial Projections Summary Model (Data Room Item 1.2.22.1)

- Thermal Coal Pricing Sensitivity (Data Room Item 1.2.24.1)

- Income Statements (Data Room Item 1.2.11.3)

- Mine-Level Profit-Loss (Data Room Item 1.2.27.1)

- Production and Headcount – December 2011 Plan vs. October Bank Plan (Data Room Item 1.2.12.5)

- Revenue Summary (October 2012 Forecast) (Data Room Item 1.2.27.2)

- Revenue Summary by Mine (October 2012 Forecast) (Data Room Item 1.2.27.3)

- Sales and Quality data (data room item 1.2.32.1)

- Transport costs (data room item 1.2.44)

- Coal Price Forecast Mapping (Data Room Item 1.2.21)

- Mine Level P&L (12-18-12 paste value).xls; Patriot Coal

- Mine Level P&L 2012 Preliminary Results (Data Room Item 1.2.33)

- Sales and Quality Data 2011-2012 (Data Room Item 1.2.32.1)

II.   **Other Resources**

- DOE/EIA, Short-Term Energy Outlook (Jan. 2013)

- Patriot Coal Diligence Overview (Mining Complexes)_FINAL.pdf

- Asset Dispositions_FINAL.pdf; Houlihan Lokey

- UCC Update Presentation 120512 (FINAL).pdf

- SNL Energy Coal Forecast as of February 28, 2013; SNL

- Wood Mackenzie Coal Market Service as of November 2012; Wood Mackenzie

Exhibit B

MATERIALS CONSIDERED

- Correspondence from Bennett K Hatfield on March 14, 2013; "Hatfield Ltr to CER 3.14.13.pdf"

- Article: May natural gas settles at 18-month high at $4.068/MMBtu by Jodi Shafto; SNL Financial

- Article: Gas Prices- What's Next? By Rick Allen; AICPA

- Article: Barclay's projects 12% increase in coal-fired generation in 2013 by Darren Epps; SNL Financial

- Prospects for coal- to- gas switching in 2013 by Jesse Gilbert, Analyst Energy Markets (February 2013), SNL Energy

- Tudor Pickering Holt & Co. Presentation: Industry M&A Trends, Opportunities Outlook; November 13, 2012

- Energy Information Administration Henry Hub Gulf Coast natural gas spot price, 4/1/2003-3/28/2013

- Capital IQ- Henry Hub natural gas prices

- Energy Information Administration February 2013 Monthly Energy Review

- Baker Hughes Rig Count, March 28, 2013

- Schwartz Declaration, March 14, 2013

Exhibit C

Natural Gas Storage Levels (Bcf)
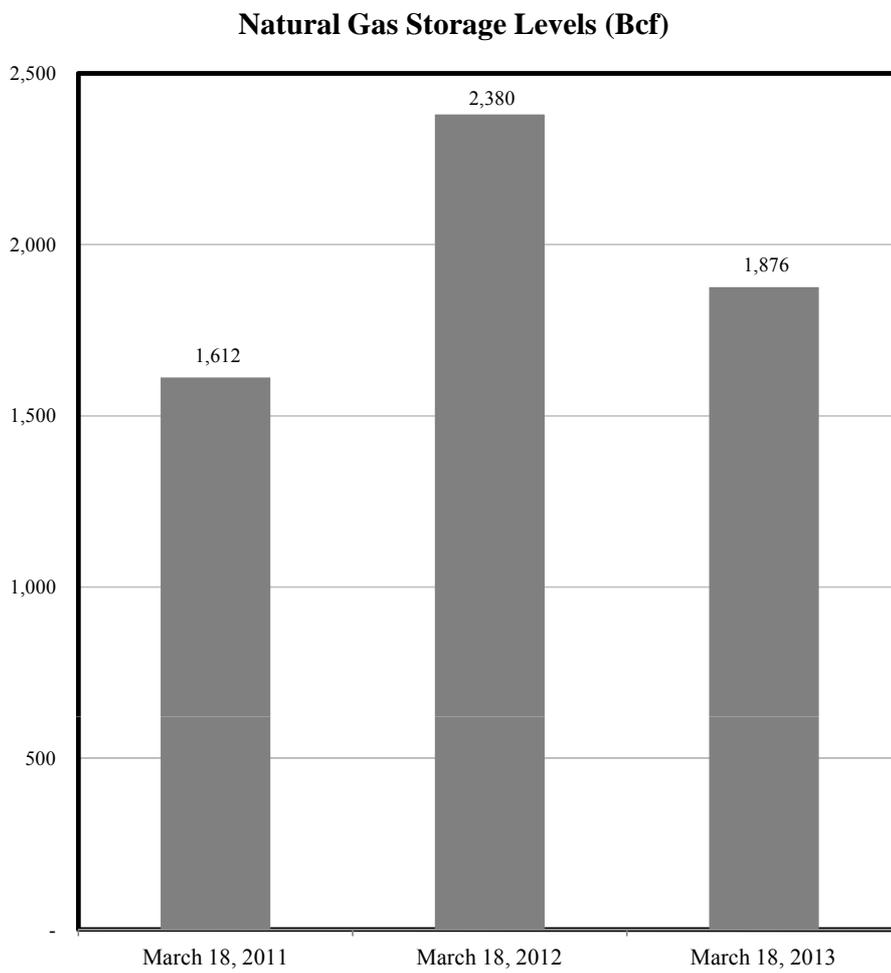
Source: U.S. Historical Gas Storage Levels, SNL Financial

Exhibit D

Rig Count
February 2011 - March 2013
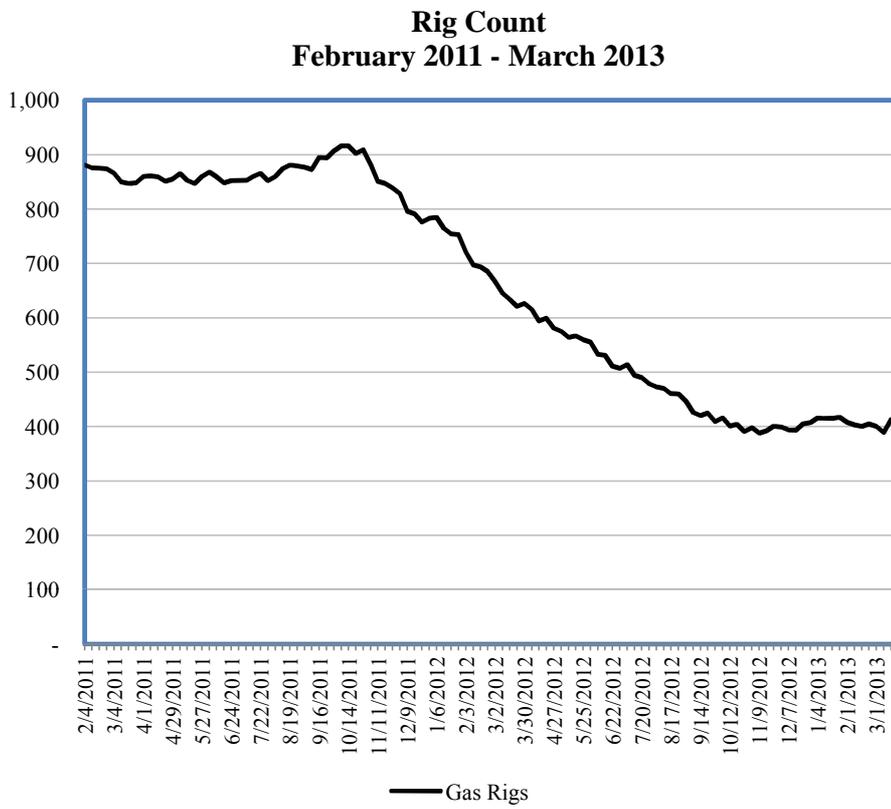
Source: Baker Hughes

Exhibit E

Gas Development Projects for LNG

Project	Source	Year in Service	Capacity (BCF/day)	Days	Annual Capacity (BCF)	Cumulative Capacity (BCF)
Freeport LNG (Quintana Terminal) Phase II	[a]	2013	2.5	360	900	900
Sempra's Cameron	[b]	2016	1.6	360	576	1,476
Sabine Pass	[b]	2016	2.4	360	864	2,340
Oregon LNG Project	[a]	2019	0.5	360	180	2,520
Annual capacity BCF					2,520	
÷					1,000	
Annual capacity TCF					**2.52**	

[a] SNL Energy company research website
[b] AICPA National Oil & Gas Conference Presentation, November 14, 2012

Exhibit F

Section 1 – Patriot Coal Business Plan

Exhibit F - Page 1
Weighted Average Thermal Coal Pricing Calculations
Price Summary

	Page Reference	2013	2014	2015	2016
Patriot Business Plan Forecast	2				
SNL Energy (unadjusted)	11				
Patriot Coal Business Plan Forecast	2				
SNL Energy (adjusted)	11				
Patriot Coal Business Plan Forecast	2				
Wood Mackenzie (unadjusted)	20				
Patriot Coal Business Plan Forecast	2				
Wood Mackenzie (adjusted)	20				

Exhibit F - Page 2
Weighted Average Thermal Coal Pricing Calculations
Summary of Prices by Complex - Business Plan

Complex	Page Reference	2013	2014	2015	2016
Midland Trail	3				
Paint Creek	4				
Federal	5				
Dodge Hill	6				
Highland	7				
Corridor G	8				
Logan County	9				
Rocklick	10				
Business Plan Weighted Average Price [1]					

Percentage of Thermal Tons Sold by Complex

Complex	Page Reference	2013	2014	2015	2016
Midland Trail	3				
Paint Creek	4				
Federal	5				
Dodge Hill	6				
Highland	7				
Corridor G	8				
Logan County	9				
Rocklick	10				
Total					

[1] For each of the years presented, each complex price above is multiplied by its corresponding percentage of thermal tons sold by complex, also above. The sum of these products is the business plan weighted average price for each year.

Some totals may not add due to rounding.

Exhibit F - Page 3
Calculation of Weighted Average Price Per Ton
Midland Trail Complex

Data source: **Business Plan**

	Calculation	2013	2014	2015	2016
Mine: Blue Creek #1					
Percentage of complex total	$a = c/i$				
Coal revenue, net of taxes [1]	b				
Tons sold [1]	c				
Realized price per ton	$d = b/c$				
Mine: Blue Creek #2					
Percentage of complex total	$e = g/i$				
Coal revenue, net of taxes [2]	f				
Tons sold [2]	g				
Realized price per ton	$h = f/g$				
Midland Trail Weighted Average Price	$(d*a) + (h*e)$				to Page 2
Tons sold - Midland Trail Complex	i				
Tons sold - all complexes [3]	j				
Percentage of total tons sold	i/j				to Page 2

[1] Obtained from tab 2199 of "Mine Level P&L (12-18-12 paste value).xls" (data room item 1.2.25.6).
[2] Obtained from tab 2201 of "Mine Level P&L (12-18-12 paste value).xls" (data room item 1.2.25.6).
[3] Summation of tons sold at each complex, obtained from individual complex/mine data in the file "Mine Level P&L (12-18-12 past value).xls."
Some totals may not add due to rounding.

Exhibit F - Page 4
Calculation of Weighted Average Price Per Ton
Paint Creek Complex

Data source: Business Plan

	Calculation	2013	2014	2015	2016
Mine: Catenary Highwall Miner - Captive					
Percentage of complex total	$a = c/q$				
Coal revenue, net of taxes[1]	b				
Tons sold[1]	c				
Realized price per ton	$d = b/c$				
Mine: Samples Mine - Excluding Rash					
Percentage of complex total	$e = g/q$				
Coal revenue, net of taxes[2]	f				
Tons sold[2]	g				
Realized price per ton	$h = f/g$				
Mine: LRP Surface					
Percentage of complex total	$i = k/q$				
Coal revenue, net of taxes[3]	j				
Tons sold[3]	k				
Realized price per ton	$l = j/k$				
Mine: LRP HWM Operations					
Percentage of complex total	$m = o/q$				
Coal revenue, net of taxes[4]	n				
Tons sold[4]	o				
Realized price per ton	$p = n/o$				
Paint Creek Weighted Average Price	$(d*a) + (h*e) + (l*i) + (p*m)$				to Page 2
Tons sold - Paint Creek Complex	q				
Tons sold - all complexes[5]	r				
Percentage of total tons sold	q/r				to Page 2

[1] Obtained from tab 2306 of "Mine Level P&L (12-18-12 paste value).xls" (data room item 1.2.25.6).
[2] Obtained from tab 2305 of "Mine Level P&L (12-18-12 paste value).xls" (data room item 1.2.25.6).
[3] Obtained from tab 2299 of "Mine Level P&L (12-18-12 paste value).xls" (data room item 1.2.25.6).
[4] Obtained from tab 2304 of "Mine Level P&L (12-18-12 paste value).xls" (data room item 1.2.25.6).
[5] Summation of tons sold at each complex, obtained from individual complex/mine data in the file "Mine Level P&L (12-18-12 past value).xls."
Some totals may not add due to rounding.

Exhibit F - Page 5
Calculation of Weighted Average Price Per Ton
Federal Complex

Data source: Business Plan

Mine: Federal #2

	Calculation	2013	2014	2015	2016
Percentage of complex total	$a = c/e$				
Coal revenue, net of taxes [1]	b				
Tons sold [1]	c				
Realized price per ton	$d = b/c$				
Federal Weighted Average Price	$(d*a)$				to Page 2
Tons sold - Federal Complex	e				
Tons sold - all complexes [2]	f				
Percentage of total tons sold	e/f				to Page 2

[1] Obtained from tab 0755 of "Mine Level P&L (12-18-12 paste value).xls" (data room item 1.2.25.6).

[2] Summation of tons sold at each complex, obtained from individual complex/mine data in the file "Mine Level P&L (12-18-12 past value).xls."

Some totals may not add due to rounding.

Exhibit F - Page 6
Calculation of Weighted Average Price Per Ton
Dodge Hill Complex

Data source: Business Plan

Mine: Dodge Hill #2

	Calculation	2013	2014	2015	2016
Percentage of complex total	$a = c/e$				
Coal revenue, net of taxes [1]	*b*				
Tons sold [1]	*c*				
Realized price per ton	$d = b/c$				
Dodge Hill Weighted Average Price	**(d*a)**				to Page 2
Tons sold - Dodge Hill Complex	*e*				
Tons sold - all complexes [2]	*f*				
Percentage of total tons sold	*e/f*				to Page 2

[1] Obtained from tab 2741 of "Mine Level P&L (12-18-12 paste value).xls" (data room item 1.2.25.6).
[2] Summation of tons sold at each complex, obtained from individual complex/mine data in the file
"Mine Level P&L (12-18-12 past value).xls."
Some totals may not add due to rounding.

Exhibit F - Page 7
Calculation of Weighted Average Price Per Ton
Highland Complex

Data source: Business Plan

Mine: Highland #9

	Calculation	2013	2014	2015	2016
Percentage of complex total	$a = c/e$				
Coal revenue, net of taxes [1]	b				
Tons sold [1]	c				
Realized price per ton	$d = b/c$				
Highland Weighted Average Price	$(d*a)$				to Page 2
Tons sold - Highland Complex	e				
Tons sold - all complexes [2]	f				
Percentage of total tons sold	e/f				to Page 2

[1] Obtained from tab 2709 of "Mine Level P&L (12-18-12 paste value).xls" (data room item 1.2.25.6).
[2] Summation of tons sold at each complex, obtained from individual complex/mine data in the file
"Mine Level P&L (12-18-12 past value).xls."
Some totals may not add due to rounding.

Exhibit F - Page 8
Calculation of Weighted Average Price Per Ton
Corridor G Complex

Data source: Business Plan

Mine: Job 21

	Calculation	2013	2014	2015	2016
Percentage of complex total	$a = c/i$				
Coal revenue, net of taxes [1]	b				
Tons sold [1]	c				
Realized price per ton	$d = b/c$				

Mine: Hill Fork Surface

	Calculation	2013	2014	2015	2016
Percentage of complex total	$e = g/i$				
Coal revenue, net of taxes [2]	f				
Tons sold [2]	g				
Realized price per ton	$h = f/g$				

| **Corridor G Weighted Average Price** | $(d*a) + (h*e)$ | | | | | to Page 2 |

| Tons sold - Corridor G Complex | i | | | | | |
| Tons sold - all complexes [3] | j | | | | | |

| **Percentage of total tons sold** | i/j | | | | | to Page 2 |

[1] Obtained from tab 2290 of "Mine Level P&L (12-18-12 paste value).xls" (data room item 1.2.25.6).
[2] Obtained from tab 2300 of "Mine Level P&L (12-18-12 paste value).xls" (data room item 1.2.25.6).
[3] Summation of tons sold at each complex, obtained from individual complex/mine data in the file
"Mine Level P&L (12-18-12 past value).xls."
Some totals may not add due to rounding.

Exhibit F - Page 9
Calculation of Weighted Average Price Per Ton
Logan County Complex

Data source: Business Plan

	Calculation	2013	2014	2015	2016	
Mine: Guyan						
Percentage of complex total	$a = c/i$					
Coal revenue, net of taxes [1]	b					
Tons sold [1]	c					
Realized price per ton	$d = b/c$					
Mine: Buffalo Mountain – Coyote						
Percentage of complex total	$e = g/i$					
Coal revenue, net of taxes [2]	f					
Tons sold [2]	g					
Realized price per ton	$h = f/g$					
Logan County Weighted Average Price	$(d*a) + (h*e)$					to Page 2
Tons sold - Logan County Complex	i					
Tons sold - all complexes [3]	j					
Percentage of total tons sold	i/j					to Page 2

[1] Obtained from tab 2311 of "Mine Level P&L (12-18-12 paste value).xls" (data room item 1.2.25.6).
[2] Obtained from tab "BUFFMTNB" of "Mine Level P&L (12-18-12 paste value).xls" (data room item 1.2.25.6).
[3] Summation of tons sold at each complex, obtained from individual complex/mine data in the file
"Mine Level P&L (12-18-12 past value).xls."
Some totals may not add due to rounding.

Exhibit F - Page 10
Calculation of Weighted Average Price Per Ton
Rocklick Complex

Data source: **Business Plan**

Mine: Thunderhill Coal

	Calculation	2013	2014	2015	2016
Percentage of complex total	$a = c/e$				
Coal revenue, net of taxes [1]	b				
Tons sold [1]	c				
Realized price per ton	$d = b/c$				
Rocklick Weighted Average Price	$(d*a)$				to Page 2
Tons sold - Rocklick Complex	e				
Tons sold - all complexes [2]	f				
Percentage of total tons sold	e/f				to Page 2

[1] Obtained from tab "THUNDHILL" of "Mine Level P&L (12-18-12 paste value).xls" (data room item 1.2.25.6).
[2] Summation of tons sold at each complex, obtained from individual complex/mine data in the file "Mine Level P&L (12-18-12 past value).xls."
Some totals may not add due to rounding.

Exhibit F

Section 2 – SNL

Exhibit F - Page 11
Weighted Average Thermal Coal Pricing Calculations
Summary of Prices by Complex - SNL

Unadjusted Price Per Ton

Complex	Page Reference	2013	2014	2015	2016
Midland Trail	12				
Paint Creek	13				
Federal	14				
Dodge Hill	15				
Highland	16				
Corridor G	17				
Logan County	18				
Rocklick	19				
SNL (unadjusted) Weighted Average [1]					

Complex	Page Reference				
Midland Trail	12				
Paint Creek	13				
Federal	14				
Dodge Hill	15				
Highland	16				
Corridor G	17				
Logan County	18				
Rocklick	19				
SNL (adjusted) Weighted Average [1]					

[1] Weighted average based on percentage of thermal tons sold by complex and calculated as described on page 2 of this exhibit.
[2] Adjustments to SNL forecasts calculated on pages 12-19 of this exhibit.
Some totals may not add due to rounding.

Exhibit F - Page 12
Calculation of Weighted Average Price Per Ton
Midland Trail Complex

Data source: SNL

	Calculation	2013	2014	2015	2016	
Price adjustment:						
SNL forecast price[1]						to Page 12
Btu/lb adjustment						
Barge transport differential[2]						
Transport cost[3]						
Adjusted Price						to Page 12
Btu/lb adjustment:						
SNL Btu/lb - forecast standard quality[4]	a					
Patriot Btu/lb[5]	b					
	c = b/a - 1						
SNL forecast price above						
Price adjustment to SNL for Btu difference						

Source:

[1] SNL Energy forecast for NYMEX look-alike [12000|1.67] coal, as of 2/28/2013. Based on discussions with management, this forecast is most appropriate for coal produced at the Midland Trail complex.

[2] Per item 3d-ii in PWC_PriceForecast_Observations.docx.

[3] Obtained from data room item 1.2.44.

[4] Standard quality used in SNL forecast.

[5] 2012 actual Btu/lb, obtained from data room item 1.2.32.1.

Some totals may not add due to rounding.

Exhibit F - Page 13
Calculation of Weighted Average Price Per Ton
Paint Creek Complex

Data source: SNL

Price adjustment:	*Calculation*	**2013**	**2014**	**2015**	**2016**	
SNL forecast price[1]						to Page 12
Btu/lb adjustment						
Adjusted Price						to Page 12

Btu/lb adjustment:						
SNL Btu/lb - forecast standard quality[2]	*a*					
Patriot Btu/lb [3]	*b*					
	c = b/a - 1					
SNL forecast price above						
Price adjustment to SNL for Btu difference						

Source:

[1] SNL Energy forecast for Big Sandy/Kanawha [12500|1.50] coal, as of 2/28/2013. Based on discussions with management, this forecast is most appropriate for coal produced at the Paint Creek complex.

[2] Standard quality used in SNL forecast.

[3] 2012 actual Btu/lb, obtained from data room item 1.2.32.1.

Some totals may not add due to rounding.

Exhibit F - Page 14
Calculation of Weighted Average Price Per Ton
Federal Complex

Data source: SNL

Price adjustment:	*Calculation*	2013	2014	2015	2016	
SNL forecast price [1]						to Page 12
Btu/lb adjustment						
Sulfur adjustment [2]						
Adjusted Price						to Page 12

Btu/lb adjustment:						
SNL Btu/lb - forecast standard quality [3]	a					
Patriot Btu/lb [4]	b					
	$c = b/a - 1$					
SNL forecast price above						
Price adjustment to SNL for Btu difference						

Source:

[1] SNL Energy forecast for Pittsburgh Seam [13000|4.00] coal, as of 2/28/2013. Based on discussions with management, this forecast is most appropriate for coal produced at the Federal complex.

[2] Provided by management in "PWC_PriceForecast_Observations.docx" (item 3b).

[3] Standard quality used in SNL forecast.

[4] 2012 actual Btu/lb, obtained from data room item 1.2.32.1.

Some totals may not add due to rounding.

Exhibit F - Page 15
Calculation of Weighted Average Price Per Ton
Dodge Hill Complex

Data source: SNL

Price adjustment:	Calculation	2013	2014	2015	2016	
SNL forecast price[1]						to Page 12
Btu/lb adjustment						
Transport cost[2]						
Adjusted Price						to Page 12

Btu/lb adjustment:						
SNL Btu/lb - forecast standard quality	a					
Patriot Btu/lb	b					
	$c = b/a - 1$					
SNL forecast price above						
Price adjustment to SNL for Btu difference						

Source:

[1] SNL Energy forecast for Illinois Basin [11000][5.00] coal, as of 2/28/2013. Based on discussions with management, this forecast is most appropriate for coal produced at the Dodge Hill complex.

[2] Obtained from data room item 1.2.44.

[3] Standard quality used in SNL forecast.

[4] 2012 actual Btu/lb, obtained from data room item 1.2.32.1.

Some totals may not add due to rounding.

Exhibit F - Page 16
Calculation of Weighted Average Price Per Ton
Highland Complex

Data source: SNL

	Calculation	2013	2014	2015	2016	
Price adjustment:						
SNL forecast price [1]						to Page 12
Btu/lb adjustment						
Adjusted Price						to Page 12
Btu/lb adjustment:						
SNL Btu/lb - forecast standard quality [2]	*a*					
Patriot Btu/lb [3]	*b*					
	$c = b/a - 1$						
SNL forecast price above						
Price adjustment to SNL for Btu difference						

Source:

[1] SNL Energy forecast for Illinois Basin [11000|5.00] coal, as of 2/28/2013. Based on discussions with management, this forecast is most appropriate for coal produced at the Highland complex.

[2] Standard quality used in SNL forecast.

[3] 2012 actual Btu/lb, obtained from data room item 1.2.32.1.

Some totals may not add due to rounding.

Exhibit F - Page 17
Calculation of Weighted Average Price Per Ton
Corridor G Complex

Data source: SNL

	Calculation	2013	2014	2015	2016	
Price adjustment:						
SNL forecast price[1]						to Page 12
Btu/lb adjustment						
Adjusted Price						to Page 12
Btu/lb adjustment:						
SNL Btu/lb - forecast standard quality[2]	a					
Patriot Btu/lb[3]	b					
	$c = b/a - 1$					
SNL forecast price above						
Price adjustment to SNL for Btu difference						

Source:

[1] SNL Energy forecast for Big Sandy/Kanawha [12500|1.50] coal, as of 2/28/2013. Based on discussions with management, this forecast is most appropriate for coal produced at the Corridor G complex.

[2] Standard quality used in SNL forecast.

[3] 2012 actual Btu/lb, obtained from data room item 1.2.32.1.

Some totals may not add due to rounding.

Exhibit F - Page 18
Calculation of Weighted Average Price Per Ton
Logan County Complex

Data source: SNL

Price adjustment:	*Calculation*	2013	2014	2015	2016	
SNL forecast price[1]						to Page 12
Btu/lb adjustment						
Adjusted Price						to Page 12

Btu/lb adjustment:						
SNL Btu/lb - forecast standard quality[2]	*a*					
Patriot Btu/lb[3]	*b*					
	$c = b/a - 1$					
SNL forecast price above						
Price adjustment to SNL for Btu difference						

Source:

[1] SNL Energy forecast for Big Sandy/Kanawha [12500|1.50] coal, as of 2/28/2013. Based on discussions with
management, this forecast is most appropriate for coal produced at the Logan County complex.

[2] Standard quality used in SNL forecast.

[3] 2012 actual Btu/lb, obtained from data room item 1.2.32.1.

Some totals may not add due to rounding.

Exhibit F - Page 19
Calculation of Weighted Average Price Per Ton
Rocklick Complex

Data source: SNL

	Calculation	2013	2014	2015	2016	
Price adjustment:						
SNL forecast price [1]						
Btu/lb adjustment						to Page 12
Adjusted Price						to Page 12
Btu/lb adjustment:						
SNL Btu/lb - forecast standard quality [2]	a					
Patriot Btu/lb [3]	b					
	$c = b/a - 1$					
SNL forecast price above						
Price adjustment to SNL for Btu difference						

Source:

[1] SNL Energy forecast for Big Sandy/Kanawha [12500|1.50] coal, as of 2/28/2013. Based on discussions with management and Note 3, below, this forecast is most appropriate for coal produced at the Rocklick complex.

[2] Standard quality used in SNL forecast.

[3] Btu/lb specifications were not available for the Rocklick complex. Based on discussions with management, specifications for the most similar complex (Logan County) were used to calculate the adjusted SNL and Wood

Some totals may not add due to rounding.

Exhibit F

Section 3 – Wood Mackenzie

Exhibit F - Page 20

Weighted Average Thermal Coal Pricing Calculations

Summary of Prices by Complex - Wood Mackenzie

Unadjusted Price Per Ton

Complex	Page Reference	2013	2014	2015	2016
Midland Trail	21				
Paint Creek	22				
Federal	23				
Dodge Hill	24				
Highland	25				
Corridor G	26				
Logan County	27				
Rocklick	28				
Wood Mackenzie (unadjusted) Weighted Average [1]					

Complex	Page Reference	2013	2014	2015	2016
Midland Trail	21				
Paint Creek	22				
Federal	23				
Dodge Hill	24				
Highland	25				
Corridor G	26				
Logan County	27				
Rocklick	28				
Wood Mackenzie (adjusted) Weighted Average [1]					

[1] Weighted average based on percentage of thermal tons sold by complex and calculated as described on page 2 of this exhibit.

[2] Adjustments to Wood Mackenzie forecasts calculated on pages 21-28 of this exhibit.

Some totals may not add due to rounding.

Exhibit F - Page 21
Calculation of Weighted Average Price Per Ton
Midland Trail Complex

Data source: Wood Mackenzie

Price adjustment:	*Calculation*	2013	2014	2015	2016	
Wood Mackenzie forecast price [1]						to Page 20
Btu/lb adjustment [2]						
Barge transport differential [2]						
Transport cost [3]						
Adjusted Price						to Page 20

Btu/lb adjustment:					
Wood Mackenzie Btu/lb - forecast standard quality [4]	*a*				
Patriot Btu/lb [5]	*b*				
	c = b/a - 1				

Wood Mackenzie forecast price above
Price adjustment to Wood Mackenzie for Btu difference

Source:

[1] Obtained from Wood Mackenzie Coal Market Service forecast for "S.WV Mid-BTU; Near Compliance; XMC; NCH; CAPP" coal, as of Nov. 2012. Based on discussions with management, this forecast is most appropriate for coal produced at the Midland Trail complex.

[2] Per item 3d-ii in PWC_PriceForecast_Observations.docx.

[3] Obtained from data room item 1.2.44.

[4] Standard quality used in Wood Mackenzie forecast.

[5] 2012 actual Btu/lb, obtained from data room item 1.2.32.1.

Some totals may not add due to rounding.

Exhibit F - Page 22
Calculation of Weighted Average Price Per Ton
Paint Creek Complex

Data source: Wood Mackenzie

	Calculation	2013	2014	2015	2016	
Price adjustment:						
Wood Mackenzie forecast price [1]						
Btu/lb adjustment						to Page 20
Adjusted Price						to Page 20
Btu/lb adjustment:						
Wood Mackenzie Btu/lb - forecast standard quality [2]	a					
Patriot Btu/lb [3]	b					
	$c = b/a - 1$					
Wood Mackenzie forecast price above						
Price adjustment to Wood Mackenzie for Btu difference						

Source:

[1] Obtained from Wood Mackenzie Coal Market Service forecast for "S.WV Mid-BTU; Near Compliance; XMC; NCH; CAPP" coal, as of Nov. 2012. Based on discussions with management, this forecast is most appropriate for coal produced at the Paint Creek complex.

[2] Standard quality used in Wood Mackenzie forecast.

[3] 2012 actual Btu/lb, obtained from data room item 1.2.32.1.

Some totals may not add due to rounding.

Exhibit F - Page 23
Calculation of Weighted Average Price Per Ton
Federal Complex

Data source: Wood Mackenzie

	Calculation	2013	2014	2015	2016	
Price adjustment:						
Wood Mackenzie forecast price [1]						to Page 20
Btu/lb adjustment [2]						
Sulfur adjustment [2]						
Adjusted Price						to Page 20
Btu/lb adjustment:						
Wood Mackenzie Btu/lb - forecast standard quality [3]	a					
Patriot Btu/lb [4]	b					
	$c = b/a - 1$					
Wood Mackenzie forecast price above						
Price adjustment to Wood Mackenzie for Btu difference						

Source:

[1] Obtained from Wood Mackenzie Coal Market Service forecast for "N. WV; High Sulfur; NWV; HSZ; NAPP" coal, as of Nov. 2012. Based on discussions with management, this forecast is most appropriate for coal produced at the Federal complex.

[2] Provided by management in "PWC_PriceForecast_Observations.docx" (item 3b).

[3] Standard quality used in Wood Mackenzie forecast.

[4] 2012 actual Btu/lb, obtained from data room item 1.2.32.1.

Some totals may not add due to rounding.

Exhibit F - Page 24
Calculation of Weighted Average Price Per Ton
Dodge Hill Complex

Data source: **Wood Mackenzie**

	Calculation	2013	2014	2015	2016	
Price adjustment:						
Wood Mackenzie forecast price [1]						to Page 20
Btu/lb adjustment						
Transport cost [2]						
Adjusted Price						to Page 20
Btu/lb adjustment:						
Wood Mackenzie Btu/lb - forecast standard quality [3]	a					
Patriot Btu/lb [4]	b					
	$c = b/a - 1$					
Wood Mackenzie forecast price above						
Price adjustment to Wood Mackenzie for Btu difference						

Source:

[1] Obtained from Wood Mackenzie Coal Market Service forecast for "W. KY; High Sulfur; WKY; HSZ; ILB" coal, as of Nov. 2012. Based on discussions with management, this forecast is most appropriate for coal produced at the Dodge Hill complex.

[2] Obtained from data room item 1.2.44.

[3] Standard quality used in Wood Mackenzie forecast.

[4] 2012 actual Btu/lb, obtained from data room item 1.2.32.1.

Some totals may not add due to rounding.

Exhibit F - Page 25
Calculation of Weighted Average Price Per Ton
Highland Complex

Data source: Wood Mackenzie

Price adjustment:	*Calculation*	2013	2014	2015	2016	
Wood Mackenzie forecast price [1]						to Page 20
Btu/lb adjustment						
Adjusted Price						to Page 20

Btu/lb adjustment:

Wood Mackenzie Btu/lb - forecast standard quality [2] a

Patriot Btu/lb [3] b

$c = b/a - 1$

Wood Mackenzie forecast price above
Price adjustment to Wood Mackenzie for Btu difference

Source:

[1] Obtained from Wood Mackenzie Coal Market Service forecast for "W. KY; High Sulfur; WKY; HSZ; ILB" coal, as of Nov. 2012. Based on discussions with management, this forecast is most appropriate for coal produced at the Highland complex.

[2] Standard quality used in Wood Mackenzie forecast.

[3] 2012 actual Btu/lb, obtained from data room item 1.2.32.1.

Some totals may not add due to rounding.

Exhibit F - Page 26
Calculation of Weighted Average Price Per Ton
Corridor G Complex

Data source: Wood Mackenzie

Price adjustment:	*Calculation*	2013	2014	2015	2016	
Wood Mackenzie forecast price [1]						to Page 20
Btu/lb adjustment						
Adjusted Price						to Page 20

Btu/lb adjustment:

	Calculation
Wood Mackenzie Btu/lb - forecast standard quality [2]	a
Patriot Btu/lb [3]	b
	$c = b/a - 1$

Wood Mackenzie forecast price above
Price adjustment to Wood Mackenzie for Btu difference

Source:

[1] Obtained from Wood Mackenzie Coal Market Service forecast for "S. WV; Mid BTU-CSX; Near-Compliance; XMC; NCH; CAPP" coal, as of Nov. 2012. Based on discussions with management, this forecast is most appropriate for coal produced at the Corridor G complex.

[2] Standard quality used in Wood Mackenzie forecast.

[3] 2012 actual Btu/lb, obtained from data room item 1.2.32.1.

Some totals may not add due to rounding.

Exhibit F - Page 27

Calculation of Weighted Average Price Per Ton

Logan County Complex

Data source: **Wood Mackenzie**

	Calculation	2013	2014	2015	2016	
Price adjustment:						
Wood Mackenzie forecast price [1]						to Page 20
Btu/lb adjustment						
Adjusted Price						to Page 20
Btu/lb adjustment:						
Wood Mackenzie Btu/lb - forecast standard quality [2]	a					
Patriot Btu/lb [3]	b					
	c = b/a - 1						
Wood Mackenzie forecast price above						
Price adjustment to Wood Mackenzie for Btu difference						

Source:

[1] Obtained from Wood Mackenzie Coal Market Service forecast for "S. WV; Mid BTU-CSX; Compliance, High Fusion; XMC; CPH; CAPP" coal, as of Nov. 2012. Based on discussions with management, this forecast is most appropriate for coal produced at the Logan County complex.

[2] Standard quality used in Wood Mackenzie forecast.

[3] 2012 actual Btu/lb, obtained from data room item 1.2.32.1.

Some totals may not add due to rounding.

Exhibit F - Page 28
Calculation of Weighted Average Price Per Ton
Rocklick Complex

Data source: Wood Mackenzie

Price adjustment:	Calculation	2013	2014	2015	2016	
Wood Mackenzie forecast price [1]						
Btu/lb adjustment						to Page 20
Adjusted Price						to Page 20

Btu/lb adjustment:

	Calculation
Wood Mackenzie Btu/lb - forecast standard quality [2]	a
Patriot Btu/lb [3]	b
	$c = b/a - 1$

Wood Mackenzie forecast price above
Price adjustment to Wood Mackenzie for Btu difference

Source:

[1] Obtained from Wood Mackenzie Coal Market Service forecast for "S. WV; Mid BTU-CSX; Compliance, High Fusion; XMC; CPH; CAPP" coal, as of Nov. 2012. Based on discussions with management, this forecast is most appropriate for coal produced at the Rocklick complex.

[2] Standard quality used in Wood Mackenzie forecast.

[3] Btu/lb specifications were not available for the Rocklick complex. Based on discussions with management, specifications for the most similar complex (Logan County) were used to calculate the adjusted SNL and Wood Mackenzie forecast prices.

Some totals may not add due to rounding.