

**CAPITALIZATION RATE STUDY
FOR NATURAL RESOURCE PROPERTIES**

FOR: JANUARY 1, 2023



UTAH STATE TAX COMMISSION

**PROPERTY TAX DIVISION
UTILITIES & TRANSPORTATION SECTION
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UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
SUMMARY OF WACC CALCULATIONS CONTINUED

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| Industry | Nominal Rate | Real Rate | Tax Rate Loaded | |
|------------------------------------|--------------|-----------|-----------------|-----------|
| | | | Nominal Rate | Real Rate |
| COAL MINING | 10.91% | 8.18% | 14.05% | 11.25% |
| PRECIOUS METALS | 8.89% | 6.21% | 11.37% | 8.63% |
| NON-PRECIOUS METALS | 11.79% | 9.04% | 15.44% | 12.61% |
| NON-METALS | 11.03% | 8.30% | 14.33% | 11.52% |
| OIL & GAS PRODUCTION/WD | 12.43% | 9.67% | 16.09% | 13.24% |
| OIL & GAS GATHERING | 10.05% | 7.34% | 12.31% | 9.55% |
| SAND AND GRAVEL | 11.31% | 8.58% | 14.71% | 11.89% |
| URANIUM MINING | 10.34% | 7.63% | 13.70% | 10.90% |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

*Nominal Rate (NR) includes both the real rate and the impact of inflation (IR)

$$\text{Real Rate} = [(1+NR)/(1+IR)]-1$$

$$\text{Coal Example} = [(1+0.1091)/(1+0.0252)]-1 = 0.0818$$



UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
DESCRIPTION OF EQUITY MODELS

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The Property Tax Division of the Utah State Tax Commission (“Division”) estimates the market cost of equity for the industries it is required to assess for property tax purposes according to Utah Law. The Division estimates the market cost of equity using recognized equity models based on financial literature, research, and guidance from Utah Tax Commission Administrative Rule R884-24P-62 (“Rule 62”). The Division develops several market-based equity models including various Capital Asset Pricing Models (“CAPM”) and Dividend Growth Models (“DGM”). The following is a summary of each of these models.

CAPM

The Division uses three CAPM cost of equity models: CAPM: Rule 62, CAPM: Supply Side, and CAPM: Implied Equity Risk Premium. Each of these CAPMs are based on the formula:

$$K(e) = R(f) + (\text{Beta} \times \text{Equity Risk Premium})$$

Where:

$K(e)$ = the estimated market cost of equity

$R(f)$ = the current risk free rate

Beta = a measure of the volatility of an individual stock compared to the volatility of the market as a whole.

Equity Risk Premium = the premium investors require above the return on a risk free investment. In other words, the additional return investors require for investing in risky securities vs. risk free securities. The Equity Risk Premium is also commonly referred to as the Market Risk Premium.

The difference between the three CAPMs that the Division calculates is how the Equity Risk Premium is estimated.

CAPM: RULE 62

Utah Tax Commission Administrative Code R884-24P-62 (“Rule 62”) states that the CAPM is the “preferred method for estimating the cost of equity” (Utah Tax Code R884-24P-62 (5)(b)(i)(B)(II)(Aa)). Rule 62 also states that “more than one method may be used to correlate a cost of equity, but only if the CAPM method is weighted at least 50% in the correlation” (Utah Tax Code R884-24P-64

Rule 62 requires the Division to use or estimate the inputs for this CAPM as follows:

- The risk free rate shall be the current market rate on 20-year Treasury bonds.
- The beta should reflect an average or value-weighted average of comparable companies and should be drawn from Value Line or an equivalent source.
- The Risk Premium shall be the arithmetic average of the spread between the return on stocks and the income return on long-term bonds for the entire historical period contained in the Ibbotson Yearbook published immediately following the lien date.¹

¹ This information is now provided by Kroll



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CAPM: Supply Side

The CAPM: Supply Side uses the same inputs as the CAPM: Rule 62 except that the Supply Side uses an Equity Risk Premium that is based on the historical returns of companies in the form of earnings, dividends, and capital gains. Ibbotson states that “investors should not expect a much higher or lower return than that produced by the companies in the real economy.”² This earnings model separates the Equity Risk Premium into four sections: inflation, income growth, growth in real earnings, and growth of the Price Earnings Ratio (“P/E Ratio”). In other words, CAPM: Supply Side ignores the historical returns that have resulted in the change in the P/E ratio. The Division uses the Supply Side Equity Risk Premium published by Kroll.

CAPM: Implied Equity Risk Premium

Professor Damodaran from the Stern School of Business at New York University estimates the Equity Risk Premium by using current market data to extract the premium currently required by investors. Dr. Damodaran relies on the price of the S&P 500 index and the expected future cash flows of the index (including dividends and share repurchases) to estimate the current implied expected return on the market.³ This expected return is then compared to the current return on the risk free rate to derive an implied equity risk premium. The Division adjusts Dr. Damodaran’s model, which is compared to a 10-year Treasury bond, to compare it to the 20-year Treasury bond that the Division uses in its other CAPM models.

²Ibbotson SBBI 2015 Classic Yearbook pg. 155

³<http://pages.stern.nyu.edu/~adamodar/>



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DGM

The Division uses four multi-stage DGM cost of equity models: two models based on the methodology of Dr. Aswath Damodaran and two based on the methodology of Dr. Bradford Cornell. All of these models start with a short-term growth rate that is then adjusted, over a period of years, to a more sustainable long-term growth rate. The basic formula for a DGM is:

$$K(e) = (D1/P0) + g$$

Where:

K(e) = the estimated cost of equity

D1 = next years expected dividend (including stock buybacks)

P0 = current stock price

g = the expected growth in dividends (including stock buybacks)

Damodaran DGM

This DGM model is based on the same mathematic structure that Dr. Damodaran uses to calculate the Implied Equity Risk Premium, but does so for each company with a positive payout ratio. The first stage of the model grows the earnings per share linearly for five years from Valueline's next year EPS estimate to the 3-5 year EPS estimate. The company's specific payout ratio is used to determine the total expected payout to shareholders. In year 5 a terminal value is calculated using a perpetual growth rate equal to the latest Congressional Budget Office's estimation of long-term economic growth. An internal rate of return calculation is then applied to the estimate of cash flows available to equity holders (including the terminal value) to determine the implied cost of equity.

Damodaran DGM (AP) Adjusted Payout

This DGM model is the same as the DGM Damodaran model but it adjusts the payout ratio to a sustainable level developed by Dr. Damodaran. This sustainable payout ratio is calculated as $1-(g/ROE)$ where g is the Congressional Budget Office's estimation of long term economic growth and the ROE is the industry average, weighted average, or median long term ROE from Valueline. The payout ratio is adjusted linearly over five years from the company specific payout ratio to the industry specific sustainable payout ratio.

Cornell 3-Stage DGM and Cornell (AP) Adjusted Payout

This 3-stage DGM follows the model put forth in "The Equity Risk Premium" by Bradford Cornell. This model uses the 5 year growth estimate provided by Value Line, then that growth rate converges linearly to the long-term growth rate over a 15 year period. In year 20, a terminal value is calculated iteratively using the $V = (CF_{n+1}) / (k-g)$ formula. An internal rate of return calculation is then applied to the estimate of cash flows available to equity holders (including the terminal value) to determine the implied cost of equity that will equal the current stock price. In the adjusted payout model the payout ratio is adjusted linearly over fifteen years from the company specific payout ratio to the industry specific sustainable payout ratio.



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
KEY RATES AND FIGURES**

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CORPORATE BONDS

| | |
|------|--------|
| Aaa | 4.43% |
| Aa | 4.77% |
| A | 5.12% |
| Baa | 5.59% |
| | |
| Ba1 | 7.24% |
| Ba2 | 8.11% |
| Ba3 | 8.98% |
| | |
| B1 | 9.85% |
| B2 | 10.72% |
| B3 | 11.59% |
| | |
| Caa1 | 12.46% |
| Caa2 | 13.33% |
| Caa3 | 14.20% |
| | |
| Ca | 15.07% |
| C | 15.94% |

PUBLIC UTILITY BONDS

| | |
|-----|-------|
| Aaa | N/A |
| Aa | 5.06% |
| A | 5.28% |
| Baa | 5.57% |

PREFERRED STOCKS

| | |
|-----|-----|
| Aaa | N/A |
| Aa | N/A |
| A | N/A |
| Baa | N/A |

MISCELLANEOUS RATES

| | |
|-------------------------------|--------|
| Airline 'TEFRA' Relief Factor | 7.76% |
| 4-R Act Relief for Railroads | 19.52% |
| 4-R Act Relief (BNSF only) | 7.75% |
| TIPS Inflationary Estimate | 2.52% |
| Marginal Income Tax Rate | 25.00% |
| GDP Price Deflator Forecast | N/A |
| Long Term Growth Rate | 3.90% |

INFLATION FACTORS

| Year | 4th Qtr. GDP Implicit Price Deflator | Annual Percent Change | Conversion Factor |
|------|--|-----------------------------|----------------------|
| 2012 | 100.73 | 2.07% | 1.284 |
| 2013 | 102.55 | 1.81% | 1.262 |
| 2014 | 104.10 | 1.52% | 1.243 |
| 2015 | 104.93 | 0.80% | 1.233 |
| 2016 | 106.47 | 1.47% | 1.215 |
| 2017 | 108.64 | 2.04% | 1.191 |
| 2018 | 111.16 | 2.32% | 1.164 |
| 2019 | 112.91 | 1.58% | 1.146 |
| 2020 | 114.74 | 1.62% | 1.128 |
| 2021 | 121.76 | 6.11% | 1.063 |
| 2022 | 129.37 | 6.26% | 1.000 |

2023 - 2013 Average Change: 2.55%

Source:

U.S. Department of Commerce: Bureau of Economic Analysis
Gross Domestic Product: Implicit Price Deflator

MARKET RISK PREMIUMS

| | |
|-----------------------------------|-------|
| Full Term Historical Risk Premium | 7.17% |
| Supply Side Risk Premium | 6.35% |
| Damodaran Implied ERP | 4.96% |
| Risk Free Rate | 4.14% |

MISCELLANEOUS INFORMATION

Stock prices are from the last trading day of 2022. Retrieved from <http://finance.yahoo.com/>

Bond yield information derived from the January 2023 Mergent bond record.

Company and industry data was taken from the last Value Line tear sheet of 2022.

Damodaran Implied Risk Premium Model Calculated Based on Model Found at: <http://pages.stern.nyu.edu/~adamodar/>

Full term historical and supply side RP are taken from: Kroll



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COAL MINING -- EQUITY RATE SUMMARY

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RECONCILIATION

| Equity Models | Weight | Equity Rate |
|-------------------------------|-------------|------------------|
| CAPM: RULE 62 | 100% | 11.09% |
| CAPM: SUPPLY SIDE | 0% | 10.31% |
| CAPM: IMPLIED ERP | 0% | 8.95% |
| DGM: DAMODARAN | 0% | NMF |
| DGM: DAMODARAN (AP) | 0% | NMF |
| DGM: CORNELL | 0% | NMF |
| DGM: CORNELL (AP) | 0% | NMF |
| Reconciled Equity Rate | | 11.09% |
| Reconciled Debt Rate | | 9.85% |
| Debt/Equity Structure | | 15% / 85% |
| WACC Conclusion | | 10.91% |



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COAL MINING -- COMPANY INFORMATION

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CALCULATION OF CAPITAL STRUCTURE

| Company | Market Value Of Equity* | Market Value Of Debt* | Percent Equity | Percent Debt |
|---|----------------------------|--------------------------|-------------------|-----------------|
| Alliance Resource Partners LP | 2,584.61 | 435.13 | 86% | 14% |
| Alpha Metallurgical Resources | 2,269.05 | 15.46 | 99% | 1% |
| Arch Resources | 2,500.31 | 239.81 | 91% | 9% |
| Hallador Energy Company | 329.50 | 101.97 | 76% | 24% |
| Peabody Energy | 4,943.18 | 587.80 | 89% | 11% |
| Ramaco Resources Inc | 388.13 | 101.99 | 79% | 21% |
| SunCoke Energy Inc | 719.85 | 471.90 | 60% | 40% |
| Warrior Met Coal Inc | 1,789.28 | 337.49 | 84% | 16% |
| Selected Equity and Debt Structure | | | 85% | 15% |

GUIDELINE COMPANY INFORMATION SUMMARY

| Company | Return On Equity | Beta | Credit Rating | Debt Rate | |
|-------------------------------|---------------------|------------|------------------|--------------|--------------|
| Alliance Resource Partners LP | N/A | 1.10 | Ba3 | 8.98% | |
| Alpha Metallurgical Resources | N/A | 1.20 | B2 | 10.72% | |
| Arch Resources | N/A | 0.75 | B1 | 9.85% | |
| Hallador Energy Company | N/A | 0.90 | N/A | N/A | |
| Peabody Energy | N/A | 0.95 | B2 | 10.72% | |
| Ramaco Resources Inc | N/A | 0.90 | N/A | N/A | |
| SunCoke Energy Inc | N/A | 1.10 | B1 | 9.85% | |
| Warrior Met Coal Inc | N/A | 0.85 | B1 | 9.85% | |
| Selected for Industry | | NMF | 0.97 | B1 | 9.85% |

* Amounts in Millions



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COAL MINING -- EQUITY MODELS

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CAPM: RULE 62 COMPLIANT

| | |
|-----------------------|-------|
| Market Risk Premium | 7.17% |
| X Industry Beta | 0.97 |
| Industry Risk Premium | 6.95% |
| Add: Risk Free Rate | 4.14% |

Indicated Rate 11.09%

CAPM: IMPLIED ERP

| | |
|-----------------------|-------|
| Market Risk Premium | 4.96% |
| X Industry Beta | 0.97 |
| Industry Risk Premium | 4.81% |
| Add: Risk Free Rate | 4.14% |

Indicated Rate 8.95%

CAPM: SUPPLY SIDE

| | |
|-----------------------|-------|
| Market Risk Premium | 6.35% |
| X Industry Beta | 0.97 |
| Industry Risk Premium | 6.16% |
| Add: Risk Free Rate | 4.14% |

Indicated Rate 10.30%

MULTISTAGE DIVIDEND GROWTH MODEL

Indicated Rates

| Company Name | Damodaran's | Damodaran's AP | Cornell's | Cornell's AP |
|-------------------------------|-------------|----------------|-----------|--------------|
| Alliance Resource Partners LP | N/A | N/A | N/A | N/A |
| Alpha Metallurgical Resources | N/A | N/A | N/A | N/A |
| Arch Resources | 21.74% | N/A | 30.79% | N/A |
| Hallador Energy Company | N/A | N/A | N/A | N/A |
| Peabody Energy | N/A | N/A | N/A | N/A |
| Ramaco Resources Inc | N/A | N/A | N/A | N/A |
| SunCoke Energy Inc | N/A | N/A | N/A | N/A |
| Warrior Met Coal Inc | N/A | N/A | N/A | N/A |

| | | | | |
|----------------------|------------|------------|------------|------------|
| Selected Rate | NMF | NMF | NMF | NMF |
|----------------------|------------|------------|------------|------------|



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COAL MINING -- DGM INPUTS

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DIVIDEND GROWTH MODEL INPUTS

| Company Name | Stock Price | Next Year's Payout | Next Year's EPS | 3-5 Year EPS | Projected Growth |
|-------------------------------|-------------|--------------------|-----------------|--------------|------------------|
| Alliance Resource Partners LP | 20.32 | 0.26 | 5.62 | N/A | -28.00% |
| Alpha Metallurgical Resources | 146.39 | 14.48 | 29.45 | N/A | N/A |
| Arch Resources | 142.79 | 4.74 | 52.95 | 70.20 | -28.00% |
| Hallador Energy Company | 9.99 | N/A | N/A | N/A | N/A |
| Peabody Energy | 26.42 | 2.79 | 5.07 | N/A | N/A |
| Ramaco Resources Inc | 8.79 | N/A | 2.70 | N/A | N/A |
| SunCoke Energy Inc | 8.63 | 0.61 | 0.73 | N/A | N/A |
| Warrior Met Coal Inc | 34.64 | 0.85 | 6.43 | N/A | N/A |



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PRECIOUS METALS -- EQUITY RATE SUMMARY

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RECONCILIATION

| Equity Models | Weight | Equity Rate |
|-------------------------------|-------------|------------------|
| CAPM: RULE 62 | 100% | 9.30% |
| CAPM: SUPPLY SIDE | 0% | 8.72% |
| CAPM: IMPLIED ERP | 0% | 7.71% |
| DGM: DAMODARAN | 0% | 9.85% |
| DGM: DAMODARAN (AP) | 0% | 9.84% |
| DGM: CORNELL | 0% | 10.25% |
| DGM: CORNELL (AP) | 0% | 9.93% |
| Reconciled Equity Rate | | 9.30% |
| Reconciled Debt Rate | | 7.24% |
| Debt/Equity Structure | | 20% / 80% |
| WACC Conclusion | | 8.89% |



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PRECIOUS METALS -- COMPANY INFORMATION

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CALCULATION OF CAPITAL STRUCTURE

| Company | Market Value Of Equity* | Market Value Of Debt* | Percent Equity | Percent Debt |
|---|------------------------------------|----------------------------------|---------------------------|-------------------------|
| Agnico Eagle Mines Ltd (AEM) | 23,731.63 | 1,493.31 | 94% | 6% |
| Barrick Gold Corporation (GOLD) | 30,156.91 | 4,922.00 | 86% | 14% |
| Coeur Mining (CDE) | 993.54 | 465.15 | 68% | 32% |
| Hecla Mining Company (HL) | 3,378.36 | 538.13 | 86% | 14% |
| Kinross Gold Corporation (KGC) | 4,997.54 | 2,659.30 | 65% | 35% |
| Newmont Corp (NEM) | 37,429.60 | 5,697.00 | 87% | 13% |
| SSR Mining Inc (SSRM) | 3,238.25 | 455.49 | 88% | 12% |
| Selected Equity and Debt Structure | | | 80% | 20% |

GUIDELINE COMPANY INFORMATION SUMMARY

| Company | Return On Equity | Beta | Credit Rating | Debt Rate |
|---------------------------------|-----------------------------|-------------|--------------------------|----------------------|
| Agnico Eagle Mines Ltd (AEM) | 12.50% | 0.60 | Baa2 | 5.59% |
| Barrick Gold Corporation (GOLD) | 8.00% | 0.60 | A3 | 5.12% |
| Coeur Mining (CDE) | 25.00% | 0.95 | B3 | 11.59% |
| Hecla Mining Company (HL) | 13.00% | 0.95 | B1 | 9.85% |
| Kinross Gold Corporation (KGC) | 10.50% | 0.65 | Baa3 | 5.59% |
| Newmont Corp (NEM) | 11.50% | 0.60 | Baa1 | 5.59% |
| SSR Mining Inc (SSRM) | 11.50% | 0.70 | N/A | N/A |
| Selected for Industry | 13.14% | 0.72 | Ba1 | 7.24% |

* Amounts in Millions



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PRECIOUS METALS -- EQUITY MODELS

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| CAPM: RULE 62 COMPLIANT | |
|-------------------------|--------------|
| Market Risk Premium | 7.17% |
| X Industry Beta | 0.72 |
| Industry Risk Premium | 5.16% |
| Add: Risk Free Rate | 4.14% |
| Indicated Rate | 9.30% |

| CAPM: IMPLIED ERP | |
|-----------------------|--------------|
| Market Risk Premium | 4.96% |
| X Industry Beta | 0.72 |
| Industry Risk Premium | 3.57% |
| Add: Risk Free Rate | 4.14% |
| Indicated Rate | 7.71% |

| CAPM: SUPPLY SIDE | |
|-----------------------|--------------|
| Market Risk Premium | 6.35% |
| X Industry Beta | 0.72 |
| Industry Risk Premium | 4.57% |
| Add: Risk Free Rate | 4.14% |
| Indicated Rate | 8.71% |

| CAPM: SUPPLY SIDE | |
|-------------------|--|
| | |
| | |
| | |
| | |
| | |

| MULTISTAGE DIVIDEND GROWTH MODEL | | | | |
|----------------------------------|-----------------|----------------|---------------|--------------|
| Company Name | Indicated Rates | | | |
| | Damodaran's | Damodaran's AP | Cornell's | Cornell's AP |
| Agnico Eagle Mines Ltd (AEM) | 9.61% | 9.87% | 14.22% | 14.44% |
| Barrick Gold Corporation (GOLD) | 6.64% | 7.97% | 7.67% | 7.22% |
| Coeur Mining (CDE) | N/A | N/A | N/A | N/A |
| Hecla Mining Company (HL) | N/A | N/A | N/A | N/A |
| Kinross Gold Corporation (KGC) | 6.69% | 11.58% | 6.49% | 6.93% |
| Newmont Corp (NEM) | 14.63% | 9.33% | 13.44% | 12.78% |
| SSR Mining Inc (SSRM) | 11.67% | 12.09% | 13.63% | 15.45% |
| Selected Rate | 9.85% | 9.84% | 10.25% | 9.93% |



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PRECIOUS METALS -- DGM INPUTS

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DIVIDEND GROWTH MODEL INPUTS

| Company Name | Stock Price | Next Year's Payout | Next Year's EPS | 3-5 Year EPS | Projected Growth |
|---------------------------------|-------------|--------------------|-----------------|--------------|------------------|
| Agnico Eagle Mines Ltd (AEM) | 51.99 | 1.80 | 2.70 | 5.45 | 20.50% |
| Barrick Gold Corporation (GOLD) | 17.18 | 0.64 | 0.90 | 1.20 | 4.00% |
| Coeur Mining (CDE) | 3.36 | N/A | 0.05 | 0.90 | N/A |
| Hecla Mining Company (HL) | 5.56 | 0.02 | 0.10 | 0.45 | N/A |
| Kinross Gold Corporation (KGC) | 4.09 | 0.12 | 0.25 | 0.60 | 2.50% |
| Newmont Corp (NEM) | 47.20 | 3.14 | 2.50 | 4.00 | 9.50% |
| SSR Mining Inc (SSRM) | 15.67 | 0.73 | 1.35 | 2.25 | 15.00% |



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NON-PRECIOUS METALS -- EQUITY RATE SUMMARY

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RECONCILIATION

| Equity Models | Weight | Equity Rate |
|-------------------------------|-------------|------------------|
| CAPM: RULE 62 | 100% | 12.89% |
| CAPM: SUPPLY SIDE | 0% | 11.90% |
| CAPM: IMPLIED ERP | 0% | 10.19% |
| DGM: DAMODARAN | 0% | 9.96% |
| DGM: DAMODARAN (AP) | 0% | 13.25% |
| DGM: CORNELL | 0% | 16.58% |
| DGM: CORNELL (AP) | 0% | 13.64% |
| Reconciled Equity Rate | | 12.89% |
| Reconciled Debt Rate | | 5.59% |
| Debt/Equity Structure | | 15% / 85% |
| WACC Conclusion | | 11.79% |



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NON-PRECIOUS METALS -- COMPANY INFORMATION

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CALCULATION OF CAPITAL STRUCTURE

| Company | Market Value Of Equity* | Market Value Of Debt* | Percent Equity | Percent Debt |
|---|------------------------------------|----------------------------------|---------------------------|-------------------------|
| BHP Group Ltd ADR (BHP) | 314,221.20 | 14,715.00 | 96% | 4% |
| Freep't-McMoRan Inc (FCX) | 61,294.00 | 10,429.00 | 85% | 15% |
| Materion Corporation (MTRN) | 2,375.72 | 514.80 | 82% | 18% |
| Rio Tinto Plc (RIO) | 115,405.59 | 11,192.00 | 91% | 9% |
| Southern Copper Corp (SCCO) | 53,420.99 | 7,278.20 | 88% | 12% |
| Teck Resources 'B' (TECKB.TO) | 19,328.83 | 7,345.65 | 72% | 28% |
| Hudbay Minerals (HBM) | 1,328.44 | 1,152.04 | 54% | 46% |
| Lundin Mining (LUN.TO) | 4,665.82 | 197.33 | 96% | 4% |
| Selected Equity and Debt Structure | | | 85% | 15% |

GUIDELINE COMPANY INFORMATION SUMMARY

| Company | Return On Equity | Beta | Credit Rating | Debt Rate | |
|-------------------------------|-----------------------------|---------------|--------------------------|----------------------|--------------|
| BHP Group Ltd ADR (BHP) | 35.50% | 1.05 | A1 | 5.12% | |
| Freep't-McMoRan Inc (FCX) | 42.50% | 1.50 | Baa3 | 5.59% | |
| Materion Corporation (MTRN) | 13.00% | 1.15 | N/A | N/A | |
| Rio Tinto Plc (RIO) | 33.50% | 1.05 | A2 | 5.12% | |
| Southern Copper Corp (SCCO) | 25.50% | 1.15 | Baa1 | 5.59% | |
| Teck Resources 'B' (TECKB.TO) | 13.00% | 1.05 | Baa3 | 5.59% | |
| Hudbay Minerals (HBM) | 10.50% | 1.60 | B1 | 9.85% | |
| Lundin Mining (LUN.TO) | 19.00% | 1.20 | N/A | N/A | |
| Selected for Industry | | 24.06% | 1.22 | Baa2 | 5.59% |

*Amount in Millions



UTAH STATE TAX COMMISSION
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NON-PRECIOUS METALS -- EQUITY MODELS

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| CAPM: RULE 62 COMPLIANT | |
|-------------------------|---------------|
| Market Risk Premium | 7.17% |
| X Industry Beta | 1.22 |
| Industry Risk Premium | 8.75% |
| Add: Risk Free Rate | 4.14% |
| Indicated Rate | 12.89% |

| CAPM: IMPLIED ERP | |
|-----------------------|---------------|
| Market Risk Premium | 4.96% |
| X Industry Beta | 1.22 |
| Industry Risk Premium | 6.05% |
| Add: Risk Free Rate | 4.14% |
| Indicated Rate | 10.19% |

| CAPM: SUPPLY SIDE | |
|-----------------------|---------------|
| Market Risk Premium | 6.35% |
| X Industry Beta | 1.22 |
| Industry Risk Premium | 7.75% |
| Add: Risk Free Rate | 4.14% |
| Indicated Rate | 11.89% |

| CAPM: SUPPLY SIDE | |
|-------------------|--|
| | |
| | |
| | |
| | |
| | |

| MULTISTAGE DIVIDEND GROWTH MODEL | | | | |
|----------------------------------|-----------------|----------------|---------------|---------------|
| Company Name | Indicated Rates | | | |
| | Damodaran's | Damodaran's AP | Cornell's | Cornell's AP |
| BHP Group Ltd ADR (BHP) | 11.40% | 12.34% | 15.42% | 12.37% |
| Freeport-McMoRan Inc (FCX) | 7.66% | 12.56% | 17.03% | 21.18% |
| Materion Corporation (MTRN) | 5.28% | 9.54% | 5.80% | 12.20% |
| Rio Tinto Plc (RIO) | 15.47% | 16.73% | 15.24% | 16.21% |
| Southern Copper Corp (SCCO) | 8.61% | 8.75% | 8.59% | 9.50% |
| Teck Resources 'B' (TECKB.TO) | 5.71% | 12.39% | 10.60% | 23.08% |
| Hudbay Minerals (HBM) | N/A | 15.20% | N/A | N/A |
| Lundin Mining (LUN.TO) | 15.58% | 18.46% | 22.80% | 21.55% |
| Selected Rate | 9.96% | 13.25% | 16.58% | 13.64% |



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NON-PRECIOUS METALS -- DGM INPUTS

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DIVIDEND GROWTH MODEL INPUTS

| Company Name | Stock Price | Next Year's Payout | Next Year's EPS | 3-5 Year EPS | Projected Growth |
|-------------------------------|-------------|--------------------|-----------------|--------------|------------------|
| BHP Group Ltd ADR (BHP) | 62.05 | 5.80 | 5.30 | 7.65 | 7.50% |
| Freeport-McMoRan Inc (FCX) | 38.00 | 1.18 | 3.40 | 5.15 | 27.50% |
| Materion Corporation (MTRN) | 87.51 | 0.54 | 5.55 | 7.50 | 16.00% |
| Rio Tinto Plc (RIO) | 71.20 | 6.94 | 9.85 | 13.45 | 6.50% |
| Southern Copper Corp (SCCO) | 60.39 | 2.30 | 3.35 | 4.10 | 6.50% |
| Teck Resources 'B' (TECKB.TO) | 37.63 | 0.37 | 4.67 | 4.96 | 29.00% |
| Hudbay Minerals (HBM) | 5.07 | 0.02 | 0.65 | 1.00 | N/A |
| Lundin Mining (LUN.TO) | 6.11 | 0.52 | 0.66 | 1.47 | 20.50% |



UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
NON-METALS -- EQUITY RATE SUMMARY

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RECONCILIATION

| Equity Models | Weight | Equity Rate |
|-------------------------------|-------------|------------------|
| CAPM: RULE 62 | 100% | 12.39% |
| CAPM: SUPPLY SIDE | 0% | 11.45% |
| CAPM: IMPLIED ERP | 0% | 9.84% |
| DGM: DAMODARAN | 0% | 11.81% |
| DGM: DAMODARAN (AP) | 0% | 9.66% |
| DGM: CORNELL | 0% | 11.50% |
| DGM: CORNELL (AP) | 0% | 14.09% |
| Reconciled Equity Rate | | 12.39% |
| Reconciled Debt Rate | | 5.59% |
| Debt/Equity Structure | | 20% / 80% |
| WACC Conclusion | | 11.03% |



UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
NON-METALS -- COMPANY INFORMATION

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CALCULATION OF CAPITAL STRUCTURE

| Company | Market Value Of Equity* | Market Value Of Debt* | Percent Equity | Percent Debt |
|---|----------------------------|--------------------------|-------------------|-----------------|
| Compass Minerals International Inc (CMP) | 1,730.12 | 864.90 | 67% | 33% |
| Eagle Materials Inc (EXP) | 4,814.79 | 933.97 | 84% | 16% |
| Intrepid Potash Inc (IPI) | 366.30 | 3.81 | 99% | 1% |
| Martin Marietta Materials Inc (MLM) | 20,987.94 | 4,947.90 | 81% | 19% |
| Mosaic Company New (MOS) | 14,875.06 | 3,687.30 | 80% | 20% |
| Vulcan Materials (VMC) | 23,272.12 | 4,426.00 | 84% | 16% |
| Selected Equity and Debt Structure | | | 80% | 20% |

GUIDELINE COMPANY INFORMATION SUMMARY

| Company | Return On Equity | Beta | Credit Rating | Debt Rate |
|--|---------------------|-------------|------------------|--------------|
| Compass Minerals International Inc (CMP) | 16.00% | 1.05 | N/A | N/A |
| Eagle Materials Inc (EXP) | 17.00% | 1.25 | Ba3 | 8.98% |
| Intrepid Potash Inc (IPI) | N/A | 1.15 | Baa2 | 5.59% |
| Martin Marietta Materials Inc (MLM) | 9.50% | 1.15 | N/A | N/A |
| Mosaic Company New (MOS) | 16.00% | 1.20 | Baa2 | 5.59% |
| Vulcan Materials (VMC) | 14.50% | 1.10 | Baa2 | 5.59% |
| Selected for Industry | 14.60% | 1.15 | Baa3 | 5.59% |

*Amount in Millions



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
NON-METALS -- EQUITY MODELS**

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| CAPM: RULE 62 COMPLIANT | |
|--------------------------------|---------------|
| Market Risk Premium | 7.17% |
| X Industry Beta | 1.15 |
| Industry Risk Premium | 8.25% |
| Add: Risk Free Rate | 4.14% |
| Indicated Rate | 12.39% |

| CAPM: IMPLIED ERP | |
|--------------------------|--------------|
| Market Risk Premium | 4.96% |
| X Industry Beta | 1.15 |
| Industry Risk Premium | 5.70% |
| Add: Risk Free Rate | 4.14% |
| Indicated Rate | 9.84% |

| CAPM: SUPPLY SIDE | |
|--------------------------|---------------|
| Market Risk Premium | 6.35% |
| X Industry Beta | 1.15 |
| Industry Risk Premium | 7.30% |
| Add: Risk Free Rate | 4.14% |
| Indicated Rate | 11.44% |

| CAPM: SUPPLY SIDE | |
|--------------------------|--|
| Market Risk Premium | |
| X Industry Beta | |
| Industry Risk Premium | |
| Add: Risk Free Rate | |
| Indicated Rate | |

| MULTISTAGE DIVIDEND GROWTH MODEL | | | | |
|---|-----------------|----------------|---------------|---------------|
| Company Name | Indicated Rates | | | |
| | Damodaran's | Damodaran's AP | Cornell's | Cornell's AP |
| Compass Minerals Internati | 0.00% | 9.49% | 17.43% | 18.38% |
| Eagle Materials Inc (EXP) | 11.65% | 9.82% | 10.71% | 13.88% |
| Intrepid Potash Inc (IPI) | N/A | N/A | N/A | N/A |
| Martin Marietta Materials Inc (MLM) | 4.67% | 6.55% | 4.73% | 6.54% |
| Mosaic Company New (MOS) | 25.87% | 15.85% | 32.18% | 0.00% |
| Vulcan Materials (VMC) | 5.05% | 6.60% | 5.41% | 7.21% |
| Selected Rate | 11.81% | 9.66% | 11.50% | 14.09% |



UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
NON-METALS -- DGM INPUTS

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DIVIDEND GROWTH MODEL INPUTS

| Company Name | Stock Price | Next Year's Payout | Next Year's EPS | 3-5 Year EPS | Projected Growth |
|---|-------------|--------------------|-----------------|--------------|------------------|
| Compass Minerals International Inc (CI) | 41.00 | 0.65 | 1.10 | 4.00 | 38.09% |
| Eagle Materials Inc (EXP) | 132.85 | 6.47 | 11.25 | 11.90 | 8.50% |
| Intrepid Potash Inc (IPI) | 28.87 | 1.15 | 4.95 | N/A | N/A |
| Martin Marietta Materials Inc (MLM) | 337.97 | 2.64 | 14.05 | 14.70 | 4.50% |
| Mosaic Company New (MOS) | 43.87 | 3.13 | 10.50 | 12.15 | 37.50% |
| Vulcan Materials (VMC) | 175.11 | 1.70 | 6.25 | 7.75 | 8.50% |



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OIL & GAS PRODUCTION -- EQUITY RATE SUMMARY

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RECONCILIATION

| Equity Models | Weight | Equity Rate |
|-------------------------------|--------|------------------|
| CAPM: RULE 62 | 60% | 14.61% |
| CAPM: SUPPLY SIDE | 20% | 13.43% |
| CAPM: IMPLIED ERP | 20% | 11.38% |
| DGM: DAMODARAN | 0% | 16.33% |
| DGM: DAMODARAN (AP) | 0% | 11.68% |
| DGM: CORNELL | 0% | 17.98% |
| DGM: CORNELL (AP) | 0% | 23.21% |
| Reconciled Equity Rate | | 13.73% |
| Reconciled Debt Rate | | 7.24% |
| Debt/Equity Structure | | 20% / 80% |
| WACC Conclusion | | 12.43% |



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OIL & GAS PRODUCTION -- COMPANY INFORMATION

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CALCULATION OF CAPITAL STRUCTURE

| Company | Market Value Of Equity* | Market Value Of Debt* | Percent Equity | Percent Debt |
|---|------------------------------------|----------------------------------|---------------------------|-------------------------|
| BLACK STONE MINERALS | 3,532.70 | 13.73 | 100% | 0% |
| CALLON PETROLEUM | 2,285.54 | 2,202.16 | 51% | 49% |
| DEVON ENERGY | 40,166.03 | 6,509.00 | 86% | 14% |
| DIAMONDBACK ENERGY | 24,598.62 | 5,885.00 | 81% | 19% |
| OCCIDENTAL PETROLEUM | 69,195.31 | 18,695.00 | 79% | 21% |
| OVINTIV INC | 12,459.45 | 4,571.00 | 73% | 27% |
| PDC ENERGY | 5,663.96 | 1,332.20 | 81% | 19% |
| PIONEER NATURAL RES | 55,887.80 | 6,569.00 | 89% | 11% |
| SM ENERGY CO | 4,246.88 | 1,567.68 | 73% | 27% |
| SOUTHWESTERN ENERGY | 6,795.04 | 4,250.00 | 62% | 38% |
| Selected Equity and Debt Structure | | | 80% | 20% |

GUIDELINE COMPANY INFORMATION SUMMARY

| Company | Return On Equity | Beta | Credit Rating | Debt Rate |
|------------------------------|-----------------------------|-------------|--------------------------|----------------------|
| BLACK STONE MINERALS | 18.50% | 1.10 | N/A | N/A |
| CALLON PETROLEUM | 19.50% | 1.95 | B2 | 10.72% |
| DEVON ENERGY | 33.00% | 1.50 | Baa2 | 5.59% |
| DIAMONDBACK ENERGY | 8.50% | 1.55 | Baa2 | 5.59% |
| OCCIDENTAL PETROLEUM | 17.50% | 1.55 | Ba1 | 7.24% |
| OVINTIV INC | 28.50% | 1.60 | Baa3 | 5.59% |
| PDC ENERGY | 7.00% | 1.45 | Ba2 | 8.11% |
| PIONEER NATURAL RES | 19.50% | 1.25 | Baa1 | 5.59% |
| SM ENERGY CO | N/A | 1.75 | B1 | 9.85% |
| SOUTHWESTERN ENERGY | 31.00% | 0.85 | Ba1 | 7.24% |
| Selected for Industry | 20.33% | 1.46 | Ba1 | 7.24% |

*Amount in Millions



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OIL & GAS PRODUCTION -- EQUITY MODELS

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| CAPM: RULE 62 COMPLIANT | |
|-------------------------|---------------|
| Market Risk Premium | 7.17% |
| X Industry Beta | 1.46 |
| Industry Risk Premium | 10.47% |
| Add: Risk Free Rate | 4.14% |
| Indicated Rate | 14.61% |

| CAPM: IMPLIED ERP | |
|-----------------------|---------------|
| Market Risk Premium | 4.96% |
| X Industry Beta | 1.46 |
| Industry Risk Premium | 7.24% |
| Add: Risk Free Rate | 4.14% |
| Indicated Rate | 11.38% |

| CAPM: SUPPLY SIDE | |
|-----------------------|---------------|
| Market Risk Premium | 6.35% |
| X Industry Beta | 1.46 |
| Industry Risk Premium | 9.27% |
| Add: Risk Free Rate | 4.14% |
| Indicated Rate | 13.41% |

| DIVISION'S RISK PREMIUM | |
|-------------------------|--|
| | |

| MULTISTAGE DIVIDEND GROWTH MODEL | | | | |
|----------------------------------|-----------------|----------------|---------------|---------------|
| Company Name | Indicated Rates | | | |
| | Damodaran's | Damodaran's AP | Cornell's | Cornell's AP |
| BLACK STONE MINERALS | 8.80% | 7.91% | 14.41% | 6.71% |
| CALLON PETROLEUM | N/A | N/A | N/A | N/A |
| DEVON ENERGY | 25.07% | 16.83% | 29.65% | N/A |
| DIAMONDBACK ENERGY | 9.03% | 8.80% | N/A | N/A |
| OCCIDENTAL PETROLEUM | 24.90% | 14.09% | N/A | N/A |
| OVINTIV INC | N/A | N/A | N/A | N/A |
| PDC ENERGY | 15.10% | 10.32% | N/A | N/A |
| PIONEER NATURAL RES | 15.09% | 12.12% | 25.56% | 29.25% |
| SM ENERGY CO | N/A | N/A | N/A | N/A |
| SOUTHWESTERN ENERGY | N/A | N/A | N/A | N/A |
| Selected Rate | 16.33% | 11.68% | 17.98% | 23.21% |



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PROPERTY TAX DIVISION
OIL & GAS PRODUCTION -- DGM INPUTS

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DIVIDEND GROWTH MODEL INPUTS

| Company Name | Stock Price | Next Year's Payout | Next Year's EPS | 3-5 Year EPS | Projected Growth |
|----------------------|-------------|--------------------|-----------------|--------------|------------------|
| BLACK STONE MINERALS | 16.87 | 1.66 | 0.50 | 1.00 | 5.00% |
| CALLON PETROLEUM | 37.09 | N/A | 16.30 | 17.40 | 18.00% |
| DEVON ENERGY | 61.51 | 4.46 | 9.35 | 9.10 | 33.50% |
| DIAMONDBACK ENERGY | 136.78 | 3.50 | 10.20 | 9.35 | N/A |
| OCCIDENTAL PETROLEUM | 62.99 | 0.73 | 7.50 | 6.75 | N/A |
| OVINTIV INC | 50.71 | 5.62 | 15.25 | 13.50 | 29.50% |
| PDC ENERGY | 63.48 | 6.07 | 8.85 | 4.25 | N/A |
| PIONEER NATURAL RES | 228.39 | 23.17 | 27.25 | 24.00 | 21.00% |
| SM ENERGY CO | 34.83 | 2.11 | 10.04 | N/A | N/A |
| SOUTHWESTERN ENERGY | 5.85 | 0.73 | 1.75 | 2.50 | 24.00% |



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OIL & GAS GATHERING -- EQUITY RATE SUMMARY

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RECONCILIATION

| Equity Models | Weight | Equity Rate |
|-------------------------------|--------|------------------|
| CAPM: RULE 62 | 60% | 13.10% |
| CAPM: SUPPLY SIDE | 20% | 12.09% |
| CAPM: IMPLIED ERP | 20% | 10.34% |
| DGM: DAMODARAN | 0% | 18.72% |
| DGM: DAMODARAN (AP) | 0% | 13.52% |
| DGM: CORNELL | 0% | 20.37% |
| DGM: CORNELL (AP) | 0% | 16.18% |
| Reconciled Equity Rate | | 12.35% |
| Reconciled Debt Rate | | 7.24% |
| Debt/Equity Structure | | 45% / 55% |
| WACC Conclusion | | 10.05% |



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OIL & GAS GATHERING -- COMPANY INFORMATION

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CALCULATION OF CAPITAL STRUCTURE

| Company | Market Value Of Equity* | Market Value Of Debt* | Percent Equity | Percent Debt |
|---|------------------------------------|----------------------------------|---------------------------|-------------------------|
| Cheniere Energy | 36,545.85 | 26,391.00 | 58% | 42% |
| Crestwood Equity Partners Lp | 2,740.69 | 3,282.50 | 46% | 54% |
| Energy Transfer Lp | 36,731.07 | 49,105.00 | 43% | 57% |
| Holly Energy Partners L.P. | 2,291.10 | 1,590.25 | 59% | 41% |
| Kinder Morgan | 40,638.08 | 30,357.00 | 57% | 43% |
| Oneok, Inc | 29,378.27 | 12,823.49 | 70% | 30% |
| Plains All American Pipeline | 8,212.65 | 8,025.00 | 51% | 49% |
| Summit Midstream Partners Lp | 169.85 | 1,431.97 | 11% | 89% |
| Western Midstream Partners | 10,312.31 | 6,158.94 | 63% | 37% |
| Williams Companies | 41,223.70 | 21,742.00 | 65% | 35% |
| Selected Equity and Debt Structure | | | 55% | 45% |

GUIDELINE COMPANY INFORMATION SUMMARY

| Company | Return On Equity | Beta | Credit Rating | Debt Rate |
|------------------------------|-----------------------------|-------------|--------------------------|----------------------|
| Cheniere Energy | 50.50% | 1.00 | Ba1 | 7.24% |
| Crestwood Equity Partners Lp | 21.00% | 1.40 | Ba2 | 8.11% |
| Energy Transfer Lp | 20.00% | 1.15 | Baa3 | 5.59% |
| Holly Energy Partners L.P. | 26.00% | 0.95 | Ba2 | 8.11% |
| Kinder Morgan | 10.00% | 1.15 | Baa2 | 5.59% |
| Oneok, Inc | 31.00% | 1.45 | Baa3 | 5.59% |
| Plains All American Pipeline | 15.00% | 1.45 | Baa3 | 5.59% |
| Summit Midstream Partners Lp | N/A | 1.60 | B3 | 11.59% |
| Western Midstream Partners | 44.00% | 1.35 | N/A | N/A |
| Williams Companies | 20.00% | 1.15 | Baa2 | 5.59% |
| Selected for Industry | 26.39% | 1.25 | Ba1 | 7.24% |

*Amounts in Millions



UTAH STATE TAX COMMISSION

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OIL & GAS GATHERING -- EQUITY MODELS

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CAPM: RULE 62 COMPLIANT

| | |
|-----------------------|---------------|
| Market Risk Premium | 7.17% |
| X Industry Beta | 1.25 |
| Industry Risk Premium | 8.96% |
| Add: Risk Free Rate | 4.14% |
| Indicated Rate | 13.10% |

CAPM: IMPLIED ERP

| | |
|-----------------------|---------------|
| Market Risk Premium | 4.96% |
| X Industry Beta | 1.25 |
| Industry Risk Premium | 6.20% |
| Add: Risk Free Rate | 4.14% |
| Indicated Rate | 10.34% |

CAPM: SUPPLY SIDE

| | |
|-----------------------|---------------|
| Market Risk Premium | 6.35% |
| X Industry Beta | 1.25 |
| Industry Risk Premium | 7.94% |
| Add: Risk Free Rate | 4.14% |
| Indicated Rate | 12.08% |

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| | |

MULTISTAGE DIVIDEND GROWTH MODEL

| Company Name | Indicated Rates | | | |
|------------------------------|-----------------|----------------|---------------|---------------|
| | Damodaran's | Damodaran's AP | Cornell's | Cornell's AP |
| Cheniere Energy | 5.66% | 6.55% | N/A | N/A |
| Crestwood Equity Partners | 30.35% | 13.89% | N/A | N/A |
| Energy Transfer Lp | 20.76% | 18.24% | 15.08% | 21.87% |
| Holly Energy Partners L.P. | 17.48% | 15.64% | 13.88% | 18.19% |
| Kinder Morgan | 18.66% | 11.60% | 22.63% | 25.58% |
| Oneok, Inc | 12.99% | 10.51% | 13.91% | 14.82% |
| Plains All American Pipeline | 29.80% | 20.94% | N/A | N/A |
| Summit Midstream Partner | N/A | N/A | N/A | N/A |
| Western Midstream Partne | 15.82% | 14.58% | 18.52% | 22.71% |
| Williams Companies | 16.90% | 9.76% | 13.06% | 19.07% |
| Selected Rate | 18.72% | 13.52% | 20.37% | 16.18% |



UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
OIL & GAS GATHERING -- DGM INPUTS

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DIVIDEND GROWTH MODEL INPUTS

| Company Name | Stock Price | Next Year's Payout | Next Year's EPS | 3-5 Year EPS | Projected Growth |
|------------------------------|-------------|--------------------|-----------------|--------------|------------------|
| Cheniere Energy | 149.96 | 1.64 | 3.85 | 5.58 | N/A |
| Crestwood Equity Partners Lp | 26.19 | 2.62 | 0.50 | 3.50 | N/A |
| Energy Transfer Lp | 11.87 | 0.92 | 1.60 | 2.35 | 10.00% |
| Holly Energy Partners L.P. | 18.12 | 1.40 | 2.15 | 2.90 | 8.00% |
| Kinder Morgan | 18.08 | 1.64 | 1.25 | 1.70 | 19.00% |
| Oneok, Inc | 65.70 | 4.05 | 4.20 | 5.80 | 11.50% |
| Plains All American Pipeline | 11.76 | 1.34 | 1.40 | 2.65 | N/A |
| Summit Midstream Partners Lp | 16.68 | N/A | N/A | N/A | N/A |
| Western Midstream Partners | 26.85 | 2.15 | 3.20 | 3.85 | 15.00% |
| Williams Companies | 32.90 | 1.76 | 1.85 | 2.30 | 12.00% |



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PROPERTY TAX DIVISION
SAND AND GRAVEL -- EQUITY RATE SUMMARY

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RECONCILIATION

| Equity Models | Weight | Equity Rate |
|-------------------------------|-------------|------------------|
| CAPM: RULE 62 | 100% | 12.74% |
| CAPM: SUPPLY SIDE | 0% | 11.77% |
| CAPM: IMPLIED ERP | 0% | 10.09% |
| DGM: DAMODARAN | 0% | 7.85% |
| DGM: DAMODARAN (AP) | 0% | 8.43% |
| DGM: CORNELL | 0% | 10.41% |
| DGM: CORNELL (AP) | 0% | 8.43% |
| Reconciled Equity Rate | | 12.74% |
| Reconciled Debt Rate | | 5.59% |
| Debt/Equity Structure | | 20% / 80% |
| WACC Conclusion | | 11.31% |



UTAH STATE TAX COMMISSION

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SAND AND GRAVEL -- COMPANY INFORMATION

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CALCULATION OF CAPITAL STRUCTURE

| Company | Market Value Of Equity* | Market Value Of Debt* | Percent Equity | Percent Debt |
|---|------------------------------------|----------------------------------|---------------------------|-------------------------|
| Eagle Materials | 4,814.79 | 933.97 | 84% | 16% |
| Granite Construction | 1,534.10 | 371.47 | 81% | 19% |
| Martin Marietta Materials | 20,987.94 | 4,947.90 | 81% | 19% |
| Summit Materials | 3,361.62 | 1,493.95 | 69% | 31% |
| Vulcan Materials | 23,272.12 | 4,426.00 | 84% | 16% |
| Construction Partners | 1,402.45 | 389.83 | 78% | 22% |
| Selected Equity and Debt Structure | | | 80% | 20% |

GUIDELINE COMPANY INFORMATION SUMMARY

| Company | Return On Equity | Beta | Credit Rating | Debt Rate |
|------------------------------|-----------------------------|-------------|--------------------------|----------------------|
| Eagle Materials | 17.00% | 1.25 | Baa2 | 5.59% |
| Granite Construction | 13.50% | 1.20 | N/A | N/A |
| Martin Marietta Materials | 9.50% | 1.15 | Baa2 | 5.59% |
| Summit Materials | 12.50% | 1.55 | Ba2 | 8.11% |
| Vulcan Materials | 14.50% | 1.10 | Baa2 | 5.59% |
| Construction Partners | 10.00% | 0.95 | N/A | N/A |
| Selected for Industry | 12.83% | 1.20 | Baa3 | 5.59% |

*Amount in Millions



UTAH STATE TAX COMMISSION

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SAND AND GRAVEL -- EQUITY MODELS

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CAPM: RULE 62 COMPLIANT

| | |
|-----------------------|---------------|
| Market Risk Premium | 7.17% |
| X Industry Beta | 1.20 |
| Industry Risk Premium | 8.60% |
| Add: Risk Free Rate | 4.14% |
| Indicated Rate | 12.74% |

CAPM: IMPLIED ERP

| | |
|-----------------------|---------------|
| Market Risk Premium | 4.96% |
| X Industry Beta | 1.20 |
| Industry Risk Premium | 5.95% |
| Add: Risk Free Rate | 4.14% |
| Indicated Rate | 10.09% |

CAPM: SUPPLY SIDE

| | |
|-----------------------|---------------|
| Market Risk Premium | 6.35% |
| X Industry Beta | 1.20 |
| Industry Risk Premium | 7.62% |
| Add: Risk Free Rate | 4.14% |
| Indicated Rate | 11.76% |

MULTISTAGE DIVIDEND GROWTH MODEL

Indicated Rates

| Company Name | Damodaran's | Damodaran's AP | Cornell's | Cornell's AP |
|---------------------------|--------------|----------------|---------------|--------------|
| Eagle Materials | 11.65% | 9.56% | 10.88% | 13.71% |
| Granite Construction | 8.59% | 10.89% | 10.07% | 11.64% |
| Martin Marietta Materials | 4.67% | 6.42% | 4.73% | 6.44% |
| Summit Materials | 9.29% | 8.79% | 11.08% | 13.18% |
| Vulcan Materials | 5.05% | 6.47% | 5.41% | 7.09% |
| Construction Partners | N/A | N/A | N/A | N/A |
| Selected Rate | 7.85% | 8.43% | 10.41% | 8.43% |



UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
SAND AND GRAVEL -- DGM INPUTS

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DIVIDEND GROWTH MODEL INPUTS

| Company Name | Stock Price | Next Year's Payout | Next Year's EPS | 3-5 Year EPS | Projected Growth |
|---------------------------|-------------|--------------------|-----------------|--------------|------------------|
| Eagle Materials | 132.85 | 6.66 | 11.25 | 11.90 | 8.50% |
| Granite Construction | 35.07 | 1.31 | 2.95 | 4.40 | 10.51% |
| Martin Marietta Materials | 337.97 | 2.64 | 14.05 | 14.70 | 4.50% |
| Summit Materials | 28.39 | 0.87 | 1.65 | 2.35 | 15.50% |
| Vulcan Materials | 175.11 | 1.70 | 6.25 | 7.75 | 8.50% |
| Construction Partners | 26.69 | N/A | 0.65 | 1.30 | 11.50% |



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RECONCILIATION

| Equity Models | Weight | Equity Rate |
|-------------------------------|-------------|-----------------|
| CAPM: RULE 62 | 100% | 10.59% |
| CAPM: SUPPLY SIDE | 0% | 9.86% |
| CAPM: IMPLIED ERP | 0% | 8.60% |
| DGM: DAMODARAN | 0% | 11.11% |
| DGM: DAMODARAN (AP) | 0% | 7.46% |
| DGM: CORNELL | 0% | NMF |
| DGM: CORNELL (AP) | 0% | NMF |
| Reconciled Equity Rate | | 10.59% |
| Reconciled Debt Rate | | 5.59% |
| Debt/Equity Structure | | 5% / 95% |
| WACC Conclusion | | 10.34% |



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CALCULATION OF CAPITAL STRUCTURE

| Company | Market Value Of Equity* | Market Value Of Debt* | Percent Equity | Percent Debt |
|---|----------------------------|--------------------------|-------------------|-----------------|
| Cameco Corp | 9,760.37 | 733.09 | 93% | 7% |
| Selected Equity and Debt Structure | | | 95% | 5% |

GUIDELINE COMPANY INFORMATION SUMMARY

| Company | Return On Equity | Beta | Credit Rating | Debt Rate |
|------------------------------|---------------------|---------------|------------------|--------------|
| Cameco Corp | 10.00% | 0.9 | Baa3 | 5.59% |
| Selected for Industry | | 10.00% | 0.90 | Baa3 |
| | | | 5.59% | |

*Amounts in Millions



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| CAPM: RULE 62 COMPLIANT | | CAPM: IMPLIED ERP | |
|-------------------------|--------|-----------------------|-------|
| Market Risk Premium | 7.17% | Market Risk Premium | 4.96% |
| X Industry Beta | 0.90 | X Industry Beta | 0.90 |
| Industry Risk Premium | 6.45% | Industry Risk Premium | 4.46% |
| Add: Risk Free Rate | 4.14% | Add: Risk Free Rate | 4.14% |
| Indicated Rate | 10.59% | Indicated Rate | 8.60% |

| CAPM: SUPPLY SIDE | | | |
|-----------------------|-------|--|--|
| Market Risk Premium | 6.35% | | |
| X Industry Beta | 0.90 | | |
| Industry Risk Premium | 5.72% | | |
| Add: Risk Free Rate | 4.14% | | |
| Indicated Rate | 9.86% | | |

| MULTISTAGE DIVIDEND GROWTH MODEL | | | | |
|----------------------------------|-----------------|----------------|-----------|--------------|
| Company Name | Indicated Rates | | | |
| | Damodaran's | Damodaran's AP | Cornell's | Cornell's AP |
| Cameco Corp | 11.11% | 7.46% | N/A | N/A |
| Selected Rate | 11.11% | 7.46% | NMF | NMF |



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DIVIDEND GROWTH MODEL INPUTS

| Company Name | Stock Price | Next Year's Payout | Next Year's EPS | 3-5 Year EPS | Projected Growth |
|--------------|-------------|--------------------|-----------------|--------------|------------------|
| Cameco Corp | 22.57 | 0.12 | 0.80 | 1.50 | N/A |