2015

# CAPITALIZATION RATE STUDY FOR CENTRALLY ASSESSED PROPERTIES

**FOR: JANUARY 1, 2015**

## UTAH STATE TAX COMMISSION

**PROPERTY TAX DIVISION**
**NATURAL RESOURCES SECTION**
**210 NORTH 1950 WEST, THIRD FLOOR**
**SALT LAKE CITY, UTAH 84134**

**(801) 297-3600**

**www.propertytax.utah.gov**

REV. 3/19/2015

| Industry | Page | Debt Rate | Debt/Equity | Equity Yield Rate | WACC |
|---|---|---|---|---|---|
| COAL MINING | 3 | 8.90% | 55% / 45% | 13.38% | 10.92% |
| PRECIOUS METALS | 6 | 7.01% | 30% / 70% | 9.07% | 8.45% |
| NON-PRECIOUS METALS | 9 | 7.01% | 25% / 75% | 12.16% | 10.87% |
| NON-METALS | 12 | 8.16% | 15% / 85% | 10.92% | 10.50% |
| OIL & GAS PRODUCTION/WD | 15 | 8.16% | 35% / 65% | 12.67% | 11.10% |
| OIL & GAS GATHERING | 18 | 7.01% | 35% / 65% | 11.59% | 9.98% |
| SAND AND GRAVEL | 21 | 8.16% | 15% / 85% | 10.73% | 10.34% |

## CORPORATE BONDS

| | |
|---|---|
| Aaa | 3.79% |
| Aa | 3.89% |
| A | 4.05% |
| Baa | 4.74% |
| Ba1 | 7.01% |
| Ba2 | 8.16% |
| Ba3 | 8.16% |
| B1 | 8.90% |
| B2 | 8.90% |
| B3 | 8.90% |
| Caa1 | 10.17% |
| Caa2 | 10.17% |
| Caa3 | 12.53% |
| Ca | 13.32% |
| C | 16.82% |

## PUBLIC UTILITY BONDS

| | |
|---|---|
| Aaa | N/A |
| Aa | 3.90% |
| A | 3.95% |
| Baa | 4.70% |

## PREFERRED STOCKS

| | |
|---|---|
| Aaa | 3.79% |
| Aa | 3.89% |
| A | 4.05% |
| Baa | 4.74% |

## MISCELLANEOUS RATES

| | |
|---|---|
| Risk-Free Rate | 2.47% |
| Market Risk Premium | 7.00% |
| Default Income Tax Rate | 38.50% |
| ValueLine GDP Price Deflator Forecast | 2.00% |

## INFLATION FACTORS

| Year | 4th Quarter GDP Implicit Price Deflator | Annual Percent Change | Conversion Factor |
|---|---|---|---|
| 2004 | 90.049 | N/A | **1.206** |
| 2005 | 93.100 | 3.39% | **1.166** |
| 2006 | 95.580 | 2.66% | **1.136** |
| 2007 | 97.956 | 2.49% | **1.108** |
| 2008 | 99.815 | 1.90% | **1.088** |
| 2009 | 100.169 | 0.35% | **1.084** |
| 2010 | 101.949 | 1.78% | **1.065** |
| 2011 | 103.917 | 1.93% | **1.045** |
| 2012 | 105.824 | 1.84% | **1.026** |
| 2013 | 107.301 | 1.40% | **1.012** |
| 2014 | 108.578 | 1.19% | **1.000** |

2015 - 2005 Average Change: 1.89%

**Source:**

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

**Website:**

http://alfred.stlouisfed.org/series?seid=GDPDEF

## MISCELLANEOUS INFORMATION

NOMINAL RATE (NR) = Includes both the real rate and the impact of inflation (IR).

REAL RATE = [(1+NR)/(1+IR)] -1

Coal Example = [(1+0.1092)/(1+0.0189)]-1 = 0.0886

| INDUSTRY | NOMINAL | REAL |
|---|---|---|
| Coal | 10.92% | 8.86% |
| Precious Metals | 8.45% | 6.44% |
| Non-Precious Metals | 10.87% | 8.81% |
| Non-Metals | 10.50% | 8.45% |
| Oil & Gas Production/WD | 11.10% | 9.04% |
| Oil & Gas Gathering | 9.98% | 7.94% |
| Sand & Gravel | 10.34% | 8.29% |
| Uranium | 13.29% | 11.19% |

| (tax-adjusted) | NOMINAL | REAL |
|---|---|---|
| Coal | 14.65% | 12.52% |
| Precious Metals | 12.38% | 10.29% |
| Non-Precious Metals | 16.52% | 14.36% |
| Non-Metals | 16.25% | 14.09% |
| Oil & Gas Production/WD | 16.20% | 14.04% |
| Oil & Gas Gathering | 14.65% | 12.52% |
| Sand & Gravel | 15.99% | 13.84% |
| Uranium | 21.08% | 18.83% |

## RECONCILIATION

| Equity Models | Equity Rate |
|---|---|
| CAPM: Rule 62 Compliant | 13.32% |
| CAPM: Total NYSE | N/A |
| CAPM: Supply Side | 11.96% |
| CAPM: Deciles 1 & 2 | N/A |
| Division's Risk Premium | 10.73% |
| DGM: Earnings & Dividend | 13.91% |
| DGM: Plowback Ratio | 0.00% |

| | | | |
|---|---|---|---|
| **Reconciled Equity Rate** | | | **13.38%** |
| Reconciled Equity Rate | 13.38% | 45.00% | 6.02% |
| Debt Rate (Corporate B2) | 8.90% | 55.00% | 4.90% |
| **Weighted Average Cost of Capital** | | | **10.92%** |
| Reconciled Equity Rate | 13.38% | | |
| Tax-Adjusted (38.25%) | 21.67% | 45.00% | 9.75% |
| Industry Debt Rate | 8.90% | 55.00% | 4.90% |
| **Tax-Adjusted Weighted Average Cost of Capital** | | | **14.65%** |

## GUIDELINE COMPANY INFORMATION SUMMARY

| Company Name | Tax Rate | Relative Financial Strength | Beta |
|---|---|---|---|
| Alliance Resource | NMF | 0.89 (B++) | 1.00 |
| Alpha Natural Res. | NMF | 1.44 (C) | 2.00 |
| Arch Coal | NMF | 1.44 (C) | 1.80 |
| CONSOL Energy | 28.82% | 1.00 (B+) | 1.40 |
| Peabody Energy | NMF | 1.11 (B) | 1.55 |
| **Selected** | **38.25%** | **1.18** | **1.55** |

## CAPM: RULE 62 COMPLIANT

| Item | Rate |
|---|---|
| Market Risk Premium | 7.00% |
| x Industry Beta | 1.55 |
| Industry Risk Premium | 10.85% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **13.32%** |

## CAPM: FULL NYSE

| Item | Rate |
|---|---|
| Market Risk Premium | 0.00% |
| x Industry Beta | 1.55 |
| Industry Risk Premium | 0.00% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **N/A** |

## CAPM: SUPPLY SIDE

| Item | Rate |
|---|---|
| Market Risk Premium | 6.19% |
| x Industry Beta | 1.55 |
| Industry Risk Premium | 9.59% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **12.06%** |

## CAPM: DECILES 1 & 2

| Item | Rate |
|---|---|
| Market Risk Premium | 0.00% |
| x Industry Beta | 1.55 |
| Industry Risk Premium | 0.00% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **N/A** |

## DIVISION'S RISK PREMIUM

| Item | Rate |
|---|---|
| Market Risk Premium | 7.00% |
| x Industry Financial Strength | 1.18 |
| Industry Risk Premium | 8.26% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **10.73%** |

## DIVIDEND GROWTH MODEL: EARNINGS AND DIVIDEND GROWTH

| Company Name | Recent Stock Price | Next Year's Dividend | Projected Earnings Growth | Projected Dividend Growth | Market Growth Rate | D.G.M. Rate |
|---|---|---|---|---|---|---|
| Alliance Resource | $43.18 | $2.74 | 5.00% | 7.50% | 6.25% | 12.60% |
| Alpha Natural Res. | $1.61 | - | - | - | - | - |
| Arch Coal | $1.68 | $0.01 | - | -14.00% | -14.00% | - |
| CONSOL Energy | $34.30 | $0.25 | 8.50% | -3.00% | 2.75% | 3.48% |
| Peabody Energy | $7.74 | $0.34 | 40.50% | 2.00% | 21.25% | 25.64% |

**Indicated Rate** **13.91%**

## DIVIDEND GROWTH MODEL: PLOWBACK RATIO

| Company Name | Recent Stock Price | Next Year's Dividend | Return on Equity | Retention Rate | Market Growth Rate | D.G.M. Rate |
|---|---|---|---|---|---|---|
| Alliance Resource | $43.18 | $2.74 | - | - | - | - |
| Alpha Natural Res. | $1.61 | - | - | - | - | - |
| Arch Coal | $1.68 | $0.01 | - | - | - | - |
| CONSOL Energy | $34.30 | $0.25 | - | - | - | - |
| Peabody Energy | $7.74 | $0.34 | - | - | - | - |

**Indicated Rate** **0.00%**

## COMMENTS ABOUT THE COAL MINING INDUSTRY

## CALCULATION OF CAPITAL STRUCTURE

| Company Name | Total Debt | Long-Term Interest | Implied Coupon Rate* | Market Value of Debt** | Fair Value of Debt*** | Pref'd Divs | MV of Pref Eqty+ | Recent Stock Price | Shares Outstd | Market Value of Equity |
|---|---|---|---|---|---|---|---|---|---|---|
| Alliance Resource | 757.5 | 30.0 | 1.98% | 410.8 | - | - | - | 43.18 | 73.9 | 3,191.0 |
| Alpha Natural Res. | 3,891.9 | 275.0 | 3.53% | 3,230.4 | - | - | - | 1.61 | 232.8 | 374.8 |
| Arch Coal | 5,156.2 | 390.0 | 3.78% | 4,517.7 | - | - | - | 1.68 | 213.8 | 359.2 |
| CONSOL Energy | 3,248.0 | 220.0 | 3.39% | 2,607.9 | - | - | - | 34.30 | 228.1 | 7,823.8 |
| Peabody Energy | 5,991.1 | 420.0 | 3.51% | 4,942.0 | - | - | - | 7.74 | 270.1 | 2,090.6 |
| **Total** | | | | **15,708.8** | | **-** | | | | **13,839.4** |

## CAPITAL STRUCTURE

| Company Name | Percent Debt & Preferred Equity | Percent Common Equity |
|---|---|---|
| Alliance Resource | 11.41% | 88.59% |
| Alpha Natural Res. | 89.60% | 10.40% |
| Arch Coal | 92.63% | 7.37% |
| CONSOL Energy | 25.00% | 75.00% |
| Peabody Energy | 70.27% | 29.73% |
| **Mean** | **57.78%** | **42.22%** |
| **Weighted Mean** | **53.16%** | **46.84%** |

## REMARKS

* Implied Coupon Rate is a semi-annual rate.

** Market Value of Debt: 8.90% (Corporate B2)

*** Fair Value of Debt overrides the Market Value of Debt in calculation of Capital Structure.

+ Market Value of Pref. Equity: 4.74% (Baa)

## RECONCILIATION

| Equity Models | Equity Rate |
|---|---|
| CAPM: Rule 62 Compliant | 8.98% |
| CAPM: Total NYSE | N/A |
| CAPM: Supply Side | 8.23% |
| CAPM: Deciles 1 & 2 | N/A |
| Division's Risk Premium | 9.89% |
| DGM: Earnings & Dividend | 8.94% |
| DGM: Plowback Ratio | 0.00% |

| | | | |
|---|---|---|---|
| **Reconciled Equity Rate** | | | **9.07%** |
| Reconciled Equity Rate | 9.07% | 70.00% | 6.35% |
| Debt Rate (Corporate Ba1) | 7.01% | 30.00% | 2.10% |
| **Weighted Average Cost of Capital** | | | **8.45%** |
| Reconciled Equity Rate | 9.07% | | |
| Tax-Adjusted (38.25%) | 14.69% | 70.00% | 10.28% |
| Industry Debt Rate | 7.01% | 30.00% | 2.10% |
| **Tax-Adjusted Weighted Average Cost of Capital** | | | **12.38%** |

## GUIDELINE COMPANY INFORMATION SUMMARY

| Company Name | Tax Rate | Relative Financial Strength | Beta |
|---|---|---|---|
| Agnico Eagle Mines | 52.11% | 1.00 (B+) | 0.75 |
| Allied Nevada Gold Corp | NMF | 1.33 (C+) | 0.95 |
| AuRico Gold Inc | NMF | | 0.90 |
| Barrick Gold | 42.12% | 0.89 (B++) | 0.75 |
| Coeur Mining Inc. | NMF | 1.22 (C++) | 1.30 |
| Goldcorp Inc. | 24.27% | 0.89 (B++) | 0.80 |
| Hecla Mining | NMF | 1.11 (B) | 1.30 |
| Kinross Gold | NMF | 1.00 (B+) | 1.00 |
| Kirkland Lake Gold Inc | NMF | | 0.90 |
| New Gold Inc | NMF | | 0.90 |
| Newmont Mining | NMF | 1.00 (B+) | 0.75 |
| Richmont Mines | 24.79% | | 0.90 |
| **Selected** | **38.25%** | **1.06** | **0.93** |

## CAPM: RULE 62 COMPLIANT

| Item | Rate |
|---|---|
| Market Risk Premium | 7.00% |
| x Industry Beta | 0.93 |
| Industry Risk Premium | 6.51% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **8.98%** |

## CAPM: FULL NYSE

| Item | Rate |
|---|---|
| Market Risk Premium | 0.00% |
| x Industry Beta | 0.93 |
| Industry Risk Premium | 0.00% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **N/A** |

## CAPM: SUPPLY SIDE

| Item | Rate |
|---|---|
| Market Risk Premium | 6.19% |
| x Industry Beta | 0.93 |
| Industry Risk Premium | 5.76% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **8.23%** |

## CAPM: DECILES 1 & 2

| Item | Rate |
|---|---|
| Market Risk Premium | 0.00% |
| x Industry Beta | 0.93 |
| Industry Risk Premium | 0.00% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **N/A** |

## DIVISION'S RISK PREMIUM

| Item | Rate |
|---|---|
| Market Risk Premium | 7.00% |
| x Industry Financial Strength | 1.06 |
| Industry Risk Premium | 7.42% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **9.89%** |

## DIVIDEND GROWTH MODEL: EARNINGS AND DIVIDEND GROWTH

| Company Name | Recent Stock Price | Next Year's Dividend | Projected Earnings Growth | Projected Dividend Growth | Market Growth Rate | D.G.M. Rate |
|---|---|---|---|---|---|---|
| Agnico Eagle Mines | $27.00 | $0.32 | 0.50% | -13.50% | -6.50% | - |
| Allied Nevada Gold Corp | $0.91 | - | - | - | - | - |
| AuRico Gold Inc | $3.38 | - | - | - | - | - |
| Barrick Gold | $10.91 | $0.20 | -25.50% | -16.50% | -21.00% | - |
| Coeur Mining Inc. | $5.30 | - | - | - | - | - |
| Goldcorp Inc. | $18.83 | $0.60 | 2.00% | 9.50% | 5.75% | 8.94% |
| Hecla Mining | $2.84 | - | 1.00% | - | 1.00% | - |
| Kinross Gold | $2.90 | - | -6.00% | -6.00% | -6.00% | - |
| Kirkland Lake Gold Inc | $3.00 | - | - | - | - | - |
| New Gold Inc | $4.42 | - | 5.00% | - | 5.00% | - |
| Newmont Mining | $19.34 | $0.10 | -14.00% | -32.00% | -23.00% | - |
| Richmont Mines | $3.80 | - | - | - | - | - |
| **Indicated Rate** | | | | | | **8.94%** |

## DIVIDEND GROWTH MODEL: PLOWBACK RATIO

| Company Name | Recent Stock Price | Next Year's Dividend | Return on Equity | Retention Rate | Market Growth Rate | D.G.M. Rate |
|---|---|---|---|---|---|---|
| Agnico Eagle Mines | $27.00 | $0.32 | - | - | - | - |
| Allied Nevada Gold Corp | $0.91 | - | - | - | - | - |
| AuRico Gold Inc | $3.38 | - | - | - | - | - |
| Barrick Gold | $10.91 | $0.20 | - | - | - | - |
| Coeur Mining Inc. | $5.30 | - | - | - | - | - |
| Goldcorp Inc. | $18.83 | $0.60 | - | - | - | - |
| Hecla Mining | $2.84 | - | - | - | - | - |
| Kinross Gold | $2.90 | - | - | - | - | - |
| Kirkland Lake Gold Inc | $3.00 | - | - | - | - | - |
| New Gold Inc | $4.42 | - | - | - | - | - |
| Newmont Mining | $19.34 | $0.10 | - | - | - | - |
| Richmont Mines | $3.80 | - | - | - | - | - |
| **Indicated Rate** | | | | | | **0.00%** |

## COMMENTS ABOUT THE PRECIOUS METALS INDUSTRY

## CALCULATION OF CAPITAL STRUCTURE

| Company Name | Total Debt | Long-Term Interest | Implied Coupon Rate* | Market Value of Debt** | Fair Value of Debt*** | Pref'd Divs | MV of Pref Eqty+ | Recent Stock Price | Shares Outstd | Market Value of Equity |
|---|---|---|---|---|---|---|---|---|---|---|
| Agnico Eagle Mines | 1,400.7 | 60.7 | 2.17% | 1,000.7 | - | - | - | 27.00 | 174.0 | 4,698.0 |
| Allied Nevada Gold Corp | 543.3 | - | - | 543.3 | - | - | - | 0.91 | 104.0 | 94.6 |
| AuRico Gold Inc | 251.5 | - | - | 251.5 | - | - | - | 3.38 | 247.6 | 836.9 |
| Barrick Gold | 13,094.0 | 800.0 | 3.05% | 11,836.2 | - | - | - | 10.91 | 1,164.7 | 12,706.9 |
| Coeur Mining Inc. | 469.5 | - | - | 469.5 | - | - | - | 5.30 | 102.8 | 544.8 |
| Goldcorp Inc. | 3,022.0 | 48.0 | 0.79% | 1,273.9 | - | - | - | 18.83 | 812.5 | 15,299.4 |
| Hecla Mining | 517.5 | - | - | 517.5 | - | - | - | 2.84 | 342.7 | 973.3 |
| Kinross Gold | 2,081.3 | 43.0 | 1.03% | 983.4 | - | - | - | 2.90 | 1,143.4 | 3,315.9 |
| Kirkland Lake Gold Inc | 130.8 | - | - | 130.8 | - | - | - | 3.00 | 70.2 | 210.6 |
| New Gold Inc | 1,610.6 | - | - | 1,610.6 | - | - | - | 4.42 | 2,820.9 | 12,468.4 |
| Newmont Mining | 6,773.0 | 300.0 | 2.21% | 4,908.1 | - | - | - | 19.34 | 498.0 | 9,631.3 |
| Richmont Mines | 31.6 | - | - | 31.6 | - | - | - | 3.80 | 33.1 | 125.8 |
| **Total** | | | | **23,557.1** | | **-** | | | | **60,905.9** |

## CAPITAL STRUCTURE

| Company Name | Percent Debt & Preferred Equity | Percent Common Equity |
|---|---|---|
| Agnico Eagle Mines | 17.56% | 82.44% |
| Allied Nevada Gold Corp | 85.17% | 14.83% |
| AuRico Gold Inc | 23.11% | 76.89% |
| Barrick Gold | 48.23% | 51.77% |
| Coeur Mining Inc. | 46.29% | 53.71% |
| Goldcorp Inc. | 7.69% | 92.31% |
| Hecla Mining | 34.71% | 65.29% |
| Kinross Gold | 22.87% | 77.13% |
| Kirkland Lake Gold Inc | 38.32% | 61.68% |
| New Gold Inc | 11.44% | 88.56% |
| Newmont Mining | 33.76% | 66.24% |
| Richmont Mines | 20.06% | 79.94% |
| **Mean** | **32.43%** | **67.57%** |
| **Weighted Mean** | **27.89%** | **72.11%** |

## REMARKS

* Implied Coupon Rate is a semi-annual rate.

** Market Value of Debt: 7.01% (Corporate Ba1)

*** Fair Value of Debt overrides the Market Value of Debt in calculation of Capital Structure.

+ Market Value of Pref. Equity: 4.74% (Baa)

## RECONCILIATION

| Equity Models | Equity Rate |
|---|---|
| CAPM: Rule 62 Compliant | 12.27% |
| CAPM: Total NYSE | N/A |
| CAPM: Supply Side | 11.04% |
| CAPM: Deciles 1 & 2 | N/A |
| Division's Risk Premium | 9.26% |
| DGM: Earnings & Dividend | 11.54% |
| DGM: Plowback Ratio | 0.00% |

| | | | |
|---|---|---|---|
| **Reconciled Equity Rate** | | | **12.16%** |
| Reconciled Equity Rate | 12.16% | 75.00% | 9.12% |
| Debt Rate (Corporate Ba1) | 7.01% | 25.00% | 1.75% |
| **Weighted Average Cost of Capital** | | | **10.87%** |
| Reconciled Equity Rate | 12.16% | | |
| Tax-Adjusted (38.25%) | 19.69% | 75.00% | 14.77% |
| Industry Debt Rate | 7.01% | 25.00% | 1.75% |
| **Tax-Adjusted Weighted Average Cost of Capital** | | | **16.52%** |

## GUIDELINE COMPANY INFORMATION SUMMARY

| Company Name | Tax Rate | Relative Financial Strength | Beta |
|---|---|---|---|
| BHP Billiton Ltd. ADR | 31.53% | 0.78 (A) | 1.30 |
| Freep't-McMoRan C&G | 30.02% | 0.89 (B++) | 1.40 |
| Revett Mining Co Inc | NMF | 1.22 (C++) | 1.20 |
| Rio Tinto plc | 33.24% | 0.78 (A) | 1.50 |
| Southern Copper | 32.43% | 0.78 (A) | 1.35 |
| Taseko Mines Ltd | 20.80% | | 1.60 |
| Teck Resources Ltd. 'B' | 38.53% | 0.89 (B++) | 1.40 |
| Thompson Creek Metals Company | NMF | 1.33 (C+) | 1.50 |
| Vale S.A. ADR | NMF | 1.11 (B) | 1.35 |
| **Selected** | **38.25%** | **0.97** | **1.40** |

## CAPM: RULE 62 COMPLIANT

| Item | Rate |
|---|---|
| Market Risk Premium | 7.00% |
| x Industry Beta | 1.40 |
| Industry Risk Premium | 9.80% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **12.27%** |

## CAPM: FULL NYSE

| Item | Rate |
|---|---|
| Market Risk Premium | 0.00% |
| x Industry Beta | 1.40 |
| Industry Risk Premium | 0.00% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **N/A** |

## CAPM: SUPPLY SIDE

| Item | Rate |
|---|---|
| Market Risk Premium | 6.19% |
| x Industry Beta | 1.40 |
| Industry Risk Premium | 8.67% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **11.14%** |

## CAPM: DECILES 1 & 2

| Item | Rate |
|---|---|
| Market Risk Premium | 0.00% |
| x Industry Beta | 1.40 |
| Industry Risk Premium | 0.00% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **N/A** |

## DIVISION'S RISK PREMIUM

| Item | Rate |
|---|---|
| Market Risk Premium | 7.00% |
| x Industry Financial Strength | 0.97 |
| Industry Risk Premium | 6.79% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **9.26%** |

## DIVIDEND GROWTH MODEL: EARNINGS AND DIVIDEND GROWTH

| Company Name | Recent Stock Price | Next Year's Dividend | Projected Earnings Growth | Projected Dividend Growth | Market Growth Rate | D.G.M. Rate |
|---|---|---|---|---|---|---|
| BHP Billiton Ltd. ADR | $47.54 | $2.59 | 5.50% | 6.50% | 6.00% | 11.45% |
| Freep't-McMoRan C&G | $23.55 | $1.32 | 6.00% | 4.50% | 5.25% | 10.86% |
| Revett Mining Co Inc | $0.78 | - | - | - | - | - |
| Rio Tinto plc | $45.72 | $2.18 | 4.50% | 12.50% | 8.50% | 13.27% |
| Southern Copper | $28.44 | $0.48 | 6.00% | -8.00% | -1.00% | - |
| Taseko Mines Ltd | $1.05 | - | - | - | - | - |
| Teck Resources Ltd. 'B' | $16.13 | $0.90 | 4.00% | 6.00% | 5.00% | 10.58% |
| Thompson Creek Metals Company | $1.70 | - | - | - | - | - |
| Vale S.A. ADR | $7.94 | $0.58 | -6.50% | -11.50% | -9.00% | - |

**Indicated Rate** **11.54%**

## DIVIDEND GROWTH MODEL: PLOWBACK RATIO

| Company Name | Recent Stock Price | Next Year's Dividend | Return on Equity | Retention Rate | Market Growth Rate | D.G.M. Rate |
|---|---|---|---|---|---|---|
| BHP Billiton Ltd. ADR | $47.54 | $2.59 | - | - | - | - |
| Freep't-McMoRan C&G | $23.55 | $1.32 | - | - | - | - |
| Revett Mining Co Inc | $0.78 | - | - | - | - | - |
| Rio Tinto plc | $45.72 | $2.18 | - | - | - | - |
| Southern Copper | $28.44 | $0.48 | - | - | - | - |
| Taseko Mines Ltd | $1.05 | - | - | - | - | - |
| Teck Resources Ltd. 'B' | $16.13 | $0.90 | - | - | - | - |
| Thompson Creek Metals Company | $1.70 | - | - | - | - | - |
| Vale S.A. ADR | $7.94 | $0.58 | - | - | - | - |

**Indicated Rate** **0.00%**

## COMMENTS ABOUT THE NON-PRECIOUS METALS INDUSTRY

## CALCULATION OF CAPITAL STRUCTURE

| Company Name | Total Debt | Long-Term Interest | Implied Coupon Rate* | Market Value of Debt** | Fair Value of Debt*** | Pref'd Divs | MV of Pref Eqty+ | Recent Stock Price | Shares Outstd | Market Value of Equity |
|---|---|---|---|---|---|---|---|---|---|---|
| BHP Billiton Ltd. ADR | 34,589.0 | 1,500.0 | 2.17% | 24,723.3 | - | - | - | 47.54 | 2,660.6 | 126,484.9 |
| Freep't-McMoRan C&G | 19,737.0 | 1,130.0 | 2.86% | 17,031.7 | - | - | - | 23.55 | 1,038.0 | 24,444.9 |
| Revett Mining Co Inc | 4.8 | - | - | 4.8 | - | - | - | 0.78 | 34.6 | 27.0 |
| Rio Tinto plc | 26,104.0 | 1,400.0 | 2.68% | 21,517.4 | - | - | - | 45.72 | 1,848.5 | 84,513.4 |
| Southern Copper | 4,205.7 | 150.0 | 1.78% | 2,660.6 | - | - | - | 28.44 | 835.3 | 23,755.9 |
| Taseko Mines Ltd | 581.8 | - | - | 581.8 | - | - | - | 1.05 | 193.4 | 203.1 |
| Teck Resources Ltd. 'B' | 8,129.0 | 480.0 | 2.95% | 7,170.4 | - | - | - | 16.13 | 576.3 | 9,295.7 |
| Thompson Creek Metals Company | 977.1 | - | - | 977.1 | - | - | - | 1.70 | 171.5 | 291.6 |
| Vale S.A. ADR | 29,416.0 | 1,335.0 | 2.27% | 21,658.8 | - | - | - | 7.94 | 5,153.4 | 40,918.0 |
| **Total** | | | | **96,325.9** | | **-** | | | | **309,934.5** |

## CAPITAL STRUCTURE

| Company Name | Percent Debt & Preferred Equity | Percent Common Equity |
|---|---|---|
| BHP Billiton Ltd. ADR | 16.35% | 83.65% |
| Freep't-McMoRan C&G | 41.06% | 58.94% |
| Revett Mining Co Inc | 15.09% | 84.91% |
| Rio Tinto plc | 20.29% | 79.71% |
| Southern Copper | 10.07% | 89.93% |
| Taseko Mines Ltd | 74.12% | 25.88% |
| Teck Resources Ltd. 'B' | 43.55% | 56.45% |
| Thompson Creek Metals Company | 77.02% | 22.98% |
| Vale S.A. ADR | 34.61% | 65.39% |
| **Mean** | **36.91%** | **63.09%** |
| **Weighted Mean** | **23.71%** | **76.29%** |

## REMARKS

* Implied Coupon Rate is a semi-annual rate.

** Market Value of Debt: 7.01% (Corporate Ba1)

*** Fair Value of Debt overrides the Market Value of Debt in calculation of Capital Structure.

+ Market Value of Pref. Equity: 4.74% (Baa)

## RECONCILIATION

| Equity Models | Equity Rate |
|---|---|
| CAPM: Rule 62 Compliant | 10.59% |
| CAPM: Total NYSE | N/A |
| CAPM: Supply Side | 9.57% |
| CAPM: Deciles 1 & 2 | N/A |
| Division's Risk Premium | 9.54% |
| DGM: Earnings & Dividend | 13.85% |
| DGM: Plowback Ratio | 4.20% |

| | | | |
|---|---|---|---|
| **Reconciled Equity Rate** | | | **10.92%** |
| Reconciled Equity Rate | 10.92% | 85.00% | 9.28% |
| Debt Rate (Corporate Ba2) | 8.16% | 15.00% | 1.22% |
| **Weighted Average Cost of Capital** | | | **10.50%** |
| Reconciled Equity Rate | 10.92% | | |
| Tax-Adjusted (38.25%) | 17.68% | 85.00% | 15.03% |
| Industry Debt Rate | 8.16% | 15.00% | 1.22% |
| **Tax-Adjusted Weighted Average Cost of Capital** | | | **16.25%** |

## GUIDELINE COMPANY INFORMATION SUMMARY

| Company Name | Tax Rate | Relative Financial Strength | Beta |
|---|---|---|---|
| Compass Minerals Int'l | 26.54% | 1.00 (B+) | 0.85 |
| Eagle Materials | 31.66% | 1.00 (B+) | 1.25 |
| Intrepid Potash Inc | 41.53% | 1.11 (B) | 1.40 |
| Martin Marietta | 26.82% | 0.89 (B++) | 1.10 |
| Potash Corp. | 27.40% | 0.67 (A+) | 1.05 |
| U S Lime & Minerals | 25.38% | 1.00 (B+) | 0.80 |
| USG Corp. | NMF | 1.33 (C+) | 1.70 |
| Vulcan Materials | NMF | 1.11 (B) | 1.10 |
| **Selected** | **38.25%** | **1.01** | **1.16** |

## CAPM: RULE 62 COMPLIANT

| Item | Rate |
|---|---|
| Market Risk Premium | 7.00% |
| x Industry Beta | 1.16 |
| Industry Risk Premium | 8.12% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **10.59%** |

## CAPM: FULL NYSE

| Item | Rate |
|---|---|
| Market Risk Premium | 0.00% |
| x Industry Beta | 1.16 |
| Industry Risk Premium | 0.00% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **N/A** |

## CAPM: SUPPLY SIDE

| Item | Rate |
|---|---|
| Market Risk Premium | 6.19% |
| x Industry Beta | 1.16 |
| Industry Risk Premium | 7.18% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **9.65%** |

## CAPM: DECILES 1 & 2

| Item | Rate |
|---|---|
| Market Risk Premium | 0.00% |
| x Industry Beta | 1.16 |
| Industry Risk Premium | 0.00% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **N/A** |

## DIVISION'S RISK PREMIUM

| Item | Rate |
|---|---|
| Market Risk Premium | 7.00% |
| x Industry Financial Strength | 1.01 |
| Industry Risk Premium | 7.07% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **9.54%** |

## DIVIDEND GROWTH MODEL: EARNINGS AND DIVIDEND GROWTH

| Company Name | Recent Stock Price | Next Year's Dividend | Projected Earnings Growth | Projected Dividend Growth | Market Growth Rate | D.G.M. Rate |
|---|---|---|---|---|---|---|
| Compass Minerals Int'l | $86.93 | $2.60 | 13.50% | 8.50% | 11.00% | 13.99% |
| Eagle Materials | $77.06 | $0.40 | 29.50% | 7.00% | 18.25% | 18.77% |
| Intrepid Potash Inc | $14.21 | - | - | - | - | - |
| Martin Marietta | $110.85 | $1.60 | 22.50% | 2.00% | 12.25% | 13.69% |
| Potash Corp. | $35.49 | $1.40 | - | 12.50% | 12.50% | 16.44% |
| U S Lime & Minerals | $71.96 | - | - | - | - | - |
| USG Corp. | $27.60 | - | - | - | - | - |
| Vulcan Materials | $66.98 | $0.24 | - | 6.00% | 6.00% | 6.36% |

**Indicated Rate** **13.85%**

## DIVIDEND GROWTH MODEL: PLOWBACK RATIO

| Company Name | Recent Stock Price | Next Year's Dividend | Return on Equity | Retention Rate | Market Growth Rate | D.G.M. Rate |
|---|---|---|---|---|---|---|
| Compass Minerals Int'l | $86.93 | $2.60 | 29.50% | 18.00% | 5.31% | 8.30% |
| Eagle Materials | $77.06 | $0.40 | 16.00% | 14.50% | 2.32% | 2.84% |
| Intrepid Potash Inc | $14.21 | - | - | - | - | - |
| Martin Marietta | $110.85 | $1.60 | 9.00% | 11.50% | 1.04% | 2.48% |
| Potash Corp. | $35.49 | $1.40 | 22.00% | 10.00% | 2.20% | 6.14% |
| U S Lime & Minerals | $71.96 | - | 10.80% | 10.80% | 1.17% | - |
| USG Corp. | $27.60 | - | 20.00% | 20.00% | 4.00% | - |
| Vulcan Materials | $66.98 | $0.24 | 9.50% | 9.50% | 0.90% | 1.26% |

**Indicated Rate** **4.20%**

## COMMENTS ABOUT THE NON-METALS INDUSTRY

## CALCULATION OF CAPITAL STRUCTURE

| Company Name | Total Debt | Long-Term Interest | Implied Coupon Rate* | Market Value of Debt** | Fair Value of Debt*** | Pref'd Divs | MV of Pref Eqty+ | Recent Stock Price | Shares Outstd | Market Value of Equity |
|---|---|---|---|---|---|---|---|---|---|---|
| Compass Minerals Int'l | 627.4 | 18.0 | 1.43% | 302.8 | - | - | - | 86.93 | 33.5 | 2,912.2 |
| Eagle Materials | 312.3 | 23.0 | 3.68% | 288.0 | - | - | - | 77.06 | 50.1 | 3,860.7 |
| Intrepid Potash Inc | 150.0 | - | - | 150.0 | - | - | - | 14.21 | 75.4 | 1,071.4 |
| Martin Marietta | 1,618.2 | 53.5 | 1.65% | 850.1 | - | - | - | 110.85 | 46.3 | 5,132.4 |
| Potash Corp. | 4,192.0 | 120.0 | 1.43% | 2,020.3 | - | - | - | 35.49 | 856.1 | 30,383.0 |
| U S Lime & Minerals | 17.9 | - | - | 17.9 | - | - | - | 71.96 | 5.6 | 403.0 |
| USG Corp. | 2,210.0 | 172.0 | 3.89% | 2,128.5 | - | - | - | 27.60 | 137.3 | 3,789.5 |
| Vulcan Materials | 2,006.1 | 202.0 | 5.03% | 2,380.7 | - | - | - | 66.98 | 130.6 | 8,747.6 |
| **Total** | | | | **8,138.3** | | **-** | | | | **56,299.8** |

## CAPITAL STRUCTURE

| Company Name | Percent Debt & Preferred Equity | Percent Common Equity |
|---|---|---|
| Compass Minerals Int'l | 9.42% | 90.58% |
| Eagle Materials | 6.94% | 93.06% |
| Intrepid Potash Inc | 12.28% | 87.72% |
| Martin Marietta | 14.21% | 85.79% |
| Potash Corp. | 6.23% | 93.77% |
| U S Lime & Minerals | 4.25% | 95.75% |
| USG Corp. | 35.97% | 64.03% |
| Vulcan Materials | 21.39% | 78.61% |
| **Mean** | **13.84%** | **86.16%** |
| **Weighted Mean** | **12.63%** | **87.37%** |

## REMARKS

* Implied Coupon Rate is a semi-annual rate.

** Market Value of Debt: 8.16% (Corporate Ba2)

*** Fair Value of Debt overrides the Market Value of Debt in calculation of Capital Structure.

+ Market Value of Pref. Equity: 4.74% (Baa)

## RECONCILIATION

| Equity Models | Equity Rate |
|---|---|
| CAPM: Rule 62 Compliant | 11.71% |
| CAPM: Total NYSE | N/A |
| CAPM: Supply Side | 10.64% |
| CAPM: Deciles 1 & 2 | N/A |
| Division's Risk Premium | 10.10% |
| DGM: Earnings & Dividend | 21.26% |
| DGM: Plowback Ratio | 0.00% |

| | | | |
|---|---|---|---|
| **Reconciled Equity Rate** | | | **12.67%** |
| Reconciled Equity Rate | 12.67% | 65.00% | 8.24% |
| Debt Rate (Corporate Ba3) | 8.16% | 35.00% | 2.86% |
| **Weighted Average Cost of Capital** | | | **11.10%** |
| Reconciled Equity Rate | 12.67% | | |
| Tax-Adjusted (38.25%) | 20.52% | 65.00% | 13.34% |
| Industry Debt Rate | 8.16% | 35.00% | 2.86% |
| **Tax-Adjusted Weighted Average Cost of Capital** | | | **16.20%** |

## GUIDELINE COMPANY INFORMATION SUMMARY

| Company Name | Tax Rate | Relative Financial Strength | Beta |
|---|---|---|---|
| Abraxas Petrol | NMF | 1.11 (B) | 2.00 |
| Bill Barrett Corp | NMF | 1.22 (C++) | 1.20 |
| Continental Resources | 37.00% | 1.00 (B+) | 1.50 |
| Earthstone Energy Inc | 22.22% | 1.22 (C++) | 1.05 |
| Emerald Oil Inc | NMF | 1.22 (C++) | 1.30 |
| Encana Corp. | NMF | 1.00 (B+) | 1.15 |
| Escalera Resources Co. | NMF | 1.44 (C) | 1.25 |
| Legacy Reserves | NMF | 1.11 (B) | 1.05 |
| Linn Energy LLC | NMF | 1.22 (C++) | 0.90 |
| Matador Resources Company | 17.70% | 1.00 (B+) | 1.30 |
| Newfield Exploration | 18.68% | 1.00 (B+) | 1.45 |
| Pioneer Natural Res. | 37.70% | 0.78 (A) | 1.40 |
| QEP Resources | 41.14% | 0.89 (B++) | 1.35 |
| Resolute Energy Corp | NMF | 1.22 (C++) | 1.25 |
| Royale Energy Inc | NMF | 1.22 (C++) | 1.50 |
| Ultra Petroleum | NMF | 1.11 (B) | 1.00 |
| Warren Resources Inc | NMF | 1.11 (B) | 1.65 |
| Whiting Petroleum | 36.00% | 0.89 (B++) | 1.45 |
| WPX Energy | NMF | 1.00 (B+) | 1.35 |
| **Selected** | **38.25%** | **1.09** | **1.32** |

## CAPM: RULE 62 COMPLIANT

| Item | Rate |
|---|---|
| Market Risk Premium | 7.00% |
| x Industry Beta | 1.32 |
| Industry Risk Premium | 9.24% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **11.71%** |

## CAPM: FULL NYSE

| Item | Rate |
|---|---|
| Market Risk Premium | 0.00% |
| x Industry Beta | 1.32 |
| Industry Risk Premium | 0.00% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **N/A** |

## CAPM: SUPPLY SIDE

| Item | Rate |
|---|---|
| Market Risk Premium | 6.19% |
| x Industry Beta | 1.32 |
| Industry Risk Premium | 8.17% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **10.64%** |

## CAPM: DECILES 1 & 2

| Item | Rate |
|---|---|
| Market Risk Premium | 0.00% |
| x Industry Beta | 1.32 |
| Industry Risk Premium | 0.00% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **N/A** |

## DIVISION'S RISK PREMIUM

| Item | Rate |
|---|---|
| Market Risk Premium | 7.00% |
| x Industry Financial Strength | 1.09 |
| Industry Risk Premium | 7.63% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **10.10%** |

## DIVIDEND GROWTH MODEL: EARNINGS AND DIVIDEND GROWTH

| Company Name | Recent Stock Price | Next Year's Dividend | Projected Earnings Growth | Projected Dividend Growth | Market Growth Rate | D.G.M. Rate |
|---|---|---|---|---|---|---|
| Abraxas Petrol | $2.97 | - | - | - | - | - |
| Bill Barrett Corp | $11.56 | - | 15.00% | - | 15.00% | - |
| Continental Resources | $38.79 | - | 19.00% | - | 19.00% | - |
| Earthstone Energy Inc | $23.50 | - | - | - | - | - |
| Emerald Oil Inc | $1.18 | - | - | - | - | - |
| Encana Corp. | $13.81 | $0.28 | 16.00% | -11.50% | 2.25% | 4.28% |
| Escalera Resources Co. | $0.57 | - | - | - | - | - |
| Legacy Reserves | $12.21 | - | 10.24% | - | 10.24% | - |
| Linn Energy LLC | $11.35 | $3.05 | 12.00% | 5.00% | 8.50% | 35.37% |
| Matador Resources Company | $20.65 | - | - | - | - | - |
| Newfield Exploration | $26.60 | - | 4.00% | - | 4.00% | - |
| Pioneer Natural Res. | $149.89 | $0.08 | 22.00% | 35.50% | 28.75% | 28.80% |
| QEP Resources | $19.99 | $0.12 | 15.50% | 16.50% | 16.00% | 16.60% |
| Resolute Energy Corp | $1.18 | - | 15.00% | - | 15.00% | - |
| Royale Energy Inc | $2.15 | - | - | - | - | - |
| Ultra Petroleum | $13.16 | - | 8.00% | - | 8.00% | - |
| Warren Resources Inc | $1.63 | - | - | - | - | - |
| Whiting Petroleum | $33.19 | - | 13.00% | - | 13.00% | - |
| WPX Energy | $11.91 | - | - | - | - | - |
| **Indicated Rate** | | | | | | **21.26%** |

## DIVIDEND GROWTH MODEL: PLOWBACK RATIO

| Company Name | Recent Stock Price | Next Year's Dividend | Return on Equity | Retention Rate | Market Growth Rate | D.G.M. Rate |
|---|---|---|---|---|---|---|
| Abraxas Petrol | $2.97 | - | - | - | - | - |
| Bill Barrett Corp | $11.56 | - | - | - | - | - |
| Continental Resources | $38.79 | - | - | - | - | - |
| Earthstone Energy Inc | $23.50 | - | - | - | - | - |
| Emerald Oil Inc | $1.18 | - | - | - | - | - |
| Encana Corp. | $13.81 | $0.28 | - | - | - | - |
| Escalera Resources Co. | $0.57 | - | - | - | - | - |
| Legacy Reserves | $12.21 | - | - | - | - | - |
| Linn Energy LLC | $11.35 | $3.05 | - | - | - | - |
| Matador Resources Company | $20.65 | - | - | - | - | - |
| Newfield Exploration | $26.60 | - | - | - | - | - |
| Pioneer Natural Res. | $149.89 | $0.08 | - | - | - | - |
| QEP Resources | $19.99 | $0.12 | - | - | - | - |
| Resolute Energy Corp | $1.18 | - | - | - | - | - |
| Royale Energy Inc | $2.15 | - | - | - | - | - |
| Ultra Petroleum | $13.16 | - | - | - | - | - |
| Warren Resources Inc | $1.63 | - | - | - | - | - |
| Whiting Petroleum | $33.19 | - | - | - | - | - |
| WPX Energy | $11.91 | - | - | - | - | - |
| **Indicated Rate** | | | | | | **0.00%** |

## COMMENTS ABOUT THE OIL & GAS PRODUCTION/WD INDUSTRY

## CALCULATION OF CAPITAL STRUCTURE

| Company Name | Total Debt | Long-Term Interest | Implied Coupon Rate* | Market Value of Debt** | Fair Value of Debt*** | Pref'd Divs | MV of Pref Eqty+ | Recent Stock Price | Shares Outstd | Market Value of Equity |
|---|---|---|---|---|---|---|---|---|---|---|
| Abraxas Petrol | 61.5 | - | - | 61.5 | - | - | - | 2.97 | 92.6 | 275.0 |
| Bill Barrett Corp | 829.1 | - | - | 829.1 | - | - | - | 11.56 | 47.8 | 552.6 |
| Continental Resources | 6,133.4 | 314.5 | 2.56% | 4,314.5 | - | - | - | 38.79 | 371.3 | 14,402.7 |
| Earthstone Energy Inc | 7.0 | - | - | 7.0 | - | - | - | 23.50 | 1.7 | 40.0 |
| Emerald Oil Inc | 192.5 | - | - | 192.5 | - | - | - | 1.18 | 65.8 | 77.6 |
| Encana Corp. | 6,086.0 | 390.0 | 3.20% | 5,043.3 | - | - | - | 13.81 | 740.9 | 10,231.8 |
| Escalera Resources Co. | 45.0 | - | - | 45.0 | - | 3.7 | 78.1 | 0.57 | 11.5 | 6.6 |
| Legacy Reserves | 1,199.2 | - | - | 1,199.2 | - | 5.4 | 113.9 | 12.21 | 57.3 | 699.6 |
| Linn Energy LLC | 12,310.1 | 530.0 | 2.15% | 7,669.6 | - | - | - | 11.35 | 329.7 | 3,742.1 |
| Matador Resources Company | 250.0 | - | - | 250.0 | - | - | - | 20.65 | 65.7 | 1,356.7 |
| Newfield Exploration | 3,046.0 | 190.0 | 3.12% | 2,473.4 | - | - | - | 26.60 | 136.7 | 3,636.2 |
| Pioneer Natural Res. | 2,659.0 | 155.0 | 2.91% | 2,052.9 | - | - | - | 149.89 | 142.6 | 21,374.3 |
| QEP Resources | 3,115.5 | 170.0 | 2.73% | 2,291.8 | - | - | - | 19.99 | 179.3 | 3,584.2 |
| Resolute Energy Corp | 736.5 | - | - | 736.5 | - | - | - | 1.18 | 73.8 | 87.1 |
| Royale Energy Inc | 1.5 | - | - | 1.5 | - | - | - | 2.15 | 14.9 | 32.0 |
| Ultra Petroleum | 2,437.0 | 120.0 | 2.46% | 1,665.8 | - | - | - | 13.16 | 153.0 | 2,013.5 |
| Warren Resources Inc | 418.3 | - | - | 418.3 | - | - | - | 1.63 | 72.9 | 118.8 |
| Whiting Petroleum | 2,653.5 | 147.6 | 2.78% | 1,979.4 | - | - | - | 33.19 | 118.7 | 3,939.7 |
| WPX Energy | 2,047.0 | 117.0 | 2.86% | 1,557.7 | - | - | - | 11.91 | 201.0 | 2,393.9 |
| **Total** | | | | **32,789.0** | | | **192.0** | | | **68,564.4** |

## CAPITAL STRUCTURE

| Company Name | Percent Debt & Preferred Equity | Percent Common Equity |
|---|---|---|
| Abraxas Petrol | 18.28% | 81.72% |
| Bill Barrett Corp | 60.01% | 39.99% |
| Continental Resources | 23.05% | 76.95% |
| Earthstone Energy Inc | 14.89% | 85.11% |
| Emerald Oil Inc | 71.27% | 28.73% |
| Encana Corp. | 33.02% | 66.98% |
| Escalera Resources Co. | 94.91% | 5.09% |
| Legacy Reserves | 65.24% | 34.76% |
| Linn Energy LLC | 67.21% | 32.79% |
| Matador Resources Company | 15.56% | 84.44% |
| Newfield Exploration | 40.48% | 59.52% |
| Pioneer Natural Res. | 8.76% | 91.24% |
| QEP Resources | 39.00% | 61.00% |
| Resolute Energy Corp | 89.42% | 10.58% |
| Royale Energy Inc | 4.48% | 95.52% |
| Ultra Petroleum | 45.27% | 54.73% |
| Warren Resources Inc | 77.88% | 22.12% |
| Whiting Petroleum | 33.44% | 66.56% |
| WPX Energy | 39.42% | 60.58% |
| **Mean** | **44.29%** | **55.71%** |
| **Weighted Mean** | **32.48%** | **67.52%** |

## REMARKS

* Implied Coupon Rate is a semi-annual rate.

** Market Value of Debt: 8.16% (Corporate Ba3)

*** Fair Value of Debt overrides the Market Value of Debt in calculation of Capital Structure.

+ Market Value of Pref. Equity: 4.74% (Baa)

## RECONCILIATION

| Equity Models | Equity Rate |
|---|---|
| CAPM: Rule 62 Compliant | 8.63% |
| CAPM: Total NYSE | N/A |
| CAPM: Supply Side | 7.92% |
| CAPM: Deciles 1 & 2 | N/A |
| Division's Risk Premium | 9.26% |
| DGM: Earnings & Dividend | 18.50% |
| DGM: Plowback Ratio | 0.00% |
| **Reconciled Equity Rate** | **11.59%** |

| | | | |
|---|---|---|---|
| Reconciled Equity Rate | 11.59% | 65.00% | 7.53% |
| Debt Rate (Corporate Ba1) | 7.01% | 35.00% | 2.45% |
| **Weighted Average Cost of Capital** | | | **9.98%** |
| Reconciled Equity Rate | 11.59% | | |
| Tax-Adjusted (38.25%) | 18.77% | 65.00% | 12.20% |
| Industry Debt Rate | 7.01% | 35.00% | 2.45% |
| **Tax-Adjusted Weighted Average Cost of Capital** | | | **14.65%** |

## GUIDELINE COMPANY INFORMATION SUMMARY

| Company Name | Tax Rate | Relative Financial Strength | Beta |
|---|---|---|---|
| Access Midstream Partners L.P. | NMF | 0.89 (B++) | 0.85 |
| Blueknight Energy Partners L.P | NMF | 1.22 (C++) | 0.75 |
| Crestwood Midstream Partners | NMF | 1.00 (B+) | 0.80 |
| EnLink Midstream Partners L.P | NMF | 1.00 (B+) | 1.15 |
| ONEOK Inc. | NMF | 1.00 (B+) | 1.05 |
| Plains All Amer. Pipe. | NMF | 1.00 (B+) | 0.75 |
| Regency Energy Partners LP | NMF | 0.89 (B++) | 0.85 |
| Tesoro Logistics LP | NMF | 0.89 (B++) | 0.75 |
| Western Gas Partners LP | NMF | 0.78 (A) | 0.85 |
| Williams Cos. | 26.20% | 1.00 (B+) | 1.00 |
| **Selected** | **38.25%** | **0.97** | **0.88** |

## CAPM: RULE 62 COMPLIANT

| Item | Rate |
|---|---|
| Market Risk Premium | 7.00% |
| x Industry Beta | 0.88 |
| Industry Risk Premium | 6.16% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **8.63%** |

## CAPM: FULL NYSE

| Item | Rate |
|---|---|
| Market Risk Premium | 0.00% |
| x Industry Beta | 0.88 |
| Industry Risk Premium | 0.00% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **N/A** |

## CAPM: SUPPLY SIDE

| Item | Rate |
|---|---|
| Market Risk Premium | 6.19% |
| x Industry Beta | 0.88 |
| Industry Risk Premium | 5.45% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **7.92%** |

## CAPM: DECILES 1 & 2

| Item | Rate |
|---|---|
| Market Risk Premium | 0.00% |
| x Industry Beta | 0.88 |
| Industry Risk Premium | 0.00% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **N/A** |

## DIVISION'S RISK PREMIUM

| Item | Rate |
|---|---|
| Market Risk Premium | 7.00% |
| x Industry Financial Strength | 0.97 |
| Industry Risk Premium | 6.79% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **9.26%** |

## DIVIDEND GROWTH MODEL: EARNINGS AND DIVIDEND GROWTH

| Company Name | Recent Stock Price | Next Year's Dividend | Projected Earnings Growth | Projected Dividend Growth | Market Growth Rate | D.G.M. Rate |
|---|---|---|---|---|---|---|
| Access Midstream Partners L.P. | $55.86 | - | 15.00% | - | 15.00% | - |
| Blueknight Energy Partners L.P | $6.72 | - | 13.55% | - | 13.55% | - |
| Crestwood Midstream Partners | $16.00 | - | 5.00% | - | 5.00% | - |
| EnLink Midstream Partners L.P | $29.27 | - | 8.00% | - | 8.00% | - |
| ONEOK Inc. | $49.92 | $2.36 | 11.00% | 16.50% | 13.75% | 18.48% |
| Plains All Amer. Pipe. | $52.31 | $2.80 | 9.00% | 10.50% | 9.75% | 15.10% |
| Regency Energy Partners LP | $24.17 | - | - | - | - | - |
| Tesoro Logistics LP | $59.21 | - | 17.50% | - | 17.50% | - |
| Western Gas Partners LP | $74.28 | - | 9.77% | - | 9.77% | - |
| Williams Cos. | $45.22 | $2.45 | 12.00% | 21.00% | 16.50% | 21.92% |

**Indicated Rate** **18.50%**

## DIVIDEND GROWTH MODEL: PLOWBACK RATIO

| Company Name | Recent Stock Price | Next Year's Dividend | Return on Equity | Retention Rate | Market Growth Rate | D.G.M. Rate |
|---|---|---|---|---|---|---|
| Access Midstream Partners L.P. | $55.86 | - | - | - | - | - |
| Blueknight Energy Partners L.P | $6.72 | - | - | - | - | - |
| Crestwood Midstream Partners | $16.00 | - | - | - | - | - |
| EnLink Midstream Partners L.P | $29.27 | - | - | - | - | - |
| ONEOK Inc. | $49.92 | $2.36 | - | - | - | - |
| Plains All Amer. Pipe. | $52.31 | $2.80 | - | - | - | - |
| Regency Energy Partners LP | $24.17 | - | - | - | - | - |
| Tesoro Logistics LP | $59.21 | - | - | - | - | - |
| Western Gas Partners LP | $74.28 | - | - | - | - | - |
| Williams Cos. | $45.22 | $2.45 | - | - | - | - |

**Indicated Rate** **0.00%**

## COMMENTS ABOUT THE OIL & GAS GATHERING INDUSTRY

## CALCULATION OF CAPITAL STRUCTURE

| Company Name | Total Debt | Long-Term Interest | Implied Coupon Rate* | Market Value of Debt** | Fair Value of Debt*** | Pref'd Divs | MV of Pref Eqty+ | Recent Stock Price | Shares Outstd | Market Value of Equity |
|---|---|---|---|---|---|---|---|---|---|---|
| Access Midstream Partners L.P. | 4,120.7 | - | - | 4,120.7 | - | - | - | 55.86 | 189.1 | 10,563.1 |
| Blueknight Energy Partners L.P | 212.9 | - | - | 212.9 | - | 21.6 | 455.7 | 6.72 | 22.8 | 153.2 |
| Crestwood Midstream Partners | 1,895.1 | - | - | 1,895.1 | - | - | - | 16.00 | 187.2 | 2,995.2 |
| EnLink Midstream Partners L.P | 1,746.7 | - | - | 1,746.7 | - | - | - | 29.27 | 91.3 | 2,672.4 |
| ONEOK Inc. | 7,205.6 | 360.0 | 2.50% | 5,657.4 | - | - | - | 49.92 | 206.6 | 10,313.5 |
| Plains All Amer. Pipe. | 8,390.0 | 323.0 | 1.92% | 5,561.2 | - | - | - | 52.31 | 359.1 | 18,784.5 |
| Regency Energy Partners LP | 6,427.0 | - | - | 6,427.0 | - | - | - | 24.17 | 210.9 | 5,097.5 |
| Tesoro Logistics LP | 1,276.0 | - | - | 1,276.0 | - | - | - | 59.21 | 54.4 | 3,221.0 |
| Western Gas Partners LP | 2,082.9 | - | - | 2,082.9 | - | - | - | 74.28 | 117.3 | 8,713.0 |
| Williams Cos. | 20,941.0 | 1,000.0 | 2.39% | 15,948.2 | - | - | - | 45.22 | 683.0 | 30,885.3 |
| **Total** | | | | **44,928.1** | | | **455.7** | | | **93,398.7** |

## CAPITAL STRUCTURE

| Company Name | Percent Debt & Preferred Equity | Percent Common Equity |
|---|---|---|
| Access Midstream Partners L.P. | 28.06% | 71.94% |
| Blueknight Energy Partners L.P | 81.36% | 18.64% |
| Crestwood Midstream Partners | 38.75% | 61.25% |
| EnLink Midstream Partners L.P | 39.53% | 60.47% |
| ONEOK Inc. | 35.42% | 64.58% |
| Plains All Amer. Pipe. | 22.84% | 77.16% |
| Regency Energy Partners LP | 55.77% | 44.23% |
| Tesoro Logistics LP | 28.37% | 71.63% |
| Western Gas Partners LP | 19.29% | 80.71% |
| Williams Cos. | 34.05% | 65.95% |
| **Mean** | **38.35%** | **61.65%** |
| **Weighted Mean** | **32.70%** | **67.30%** |

## REMARKS

* Implied Coupon Rate is a semi-annual rate.

** Market Value of Debt: 7.01% (Corporate Ba1)

*** Fair Value of Debt overrides the Market Value of Debt in calculation of Capital Structure.

+ Market Value of Pref. Equity: 4.74% (Baa)

## RECONCILIATION

| Equity Models | Equity Rate |
|---|---|
| CAPM: Rule 62 Compliant | 10.73% |
| CAPM: Total NYSE | N/A |
| CAPM: Supply Side | 9.77% |
| CAPM: Deciles 1 & 2 | N/A |
| Division's Risk Premium | 9.47% |
| DGM: Earnings & Dividend | 15.37% |
| DGM: Plowback Ratio | 0.00% |

| | | | |
|---|---|---|---|
| **Reconciled Equity Rate** | | | **10.73%** |
| Reconciled Equity Rate | 10.73% | 85.00% | 9.12% |
| Debt Rate (Corporate Ba2) | 8.16% | 15.00% | 1.22% |
| **Weighted Average Cost of Capital** | | | **10.34%** |
| Reconciled Equity Rate | 10.73% | | |
| Tax-Adjusted (38.25%) | 17.38% | 85.00% | 14.77% |
| Industry Debt Rate | 8.16% | 15.00% | 1.22% |
| **Tax-Adjusted Weighted Average Cost of Capital** | | | **15.99%** |

## GUIDELINE COMPANY INFORMATION SUMMARY

| Company Name | Tax Rate | Relative Financial Strength | Beta |
|---|---|---|---|
| Eagle Materials | 31.66% | 1.00 (B+) | 1.25 |
| Granite Construction | NMF | 1.00 (B+) | 1.25 |
| Martin Marietta | 26.82% | 0.89 (B++) | 1.10 |
| Vulcan Materials | NMF | 1.11 (B) | 1.10 |
| **Selected** | **38.25%** | **1.00** | **1.18** |

## CAPM: RULE 62 COMPLIANT

| Item | Rate |
|---|---|
| Market Risk Premium | 7.00% |
| x Industry Beta | 1.18 |
| Industry Risk Premium | 8.26% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **10.73%** |

## CAPM: FULL NYSE

| Item | Rate |
|---|---|
| Market Risk Premium | 0.00% |
| x Industry Beta | 1.18 |
| Industry Risk Premium | 0.00% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **N/A** |

## CAPM: SUPPLY SIDE

| Item | Rate |
|---|---|
| Market Risk Premium | 6.19% |
| x Industry Beta | 1.18 |
| Industry Risk Premium | 7.30% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **9.77%** |

## CAPM: DECILES 1 & 2

| Item | Rate |
|---|---|
| Market Risk Premium | 0.00% |
| x Industry Beta | 1.18 |
| Industry Risk Premium | 0.00% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **N/A** |

## DIVISION'S RISK PREMIUM

| Item | Rate |
|---|---|
| Market Risk Premium | 7.00% |
| x Industry Financial Strength | 1.00 |
| Industry Risk Premium | 7.00% |
| Add: Risk-Free Rate | 2.47% |
| **Indicated Rate** | **9.47%** |

## DIVIDEND GROWTH MODEL: EARNINGS AND DIVIDEND GROWTH

| Company Name | Recent Stock Price | Next Year's Dividend | Projected Earnings Growth | Projected Dividend Growth | Market Growth Rate | D.G.M. Rate |
|---|---|---|---|---|---|---|
| Eagle Materials | $77.06 | $0.40 | 29.50% | 7.00% | 18.25% | 18.77% |
| Granite Construction | $37.19 | $0.52 | 35.00% | 7.50% | 21.25% | 22.65% |
| Martin Marietta | $110.85 | $1.60 | 22.50% | 2.00% | 12.25% | 13.69% |
| Vulcan Materials | $66.98 | $0.24 | - | 6.00% | 6.00% | 6.36% |

**Indicated Rate** **15.37%**

## DIVIDEND GROWTH MODEL: PLOWBACK RATIO

| Company Name | Recent Stock Price | Next Year's Dividend | Return on Equity | Retention Rate | Market Growth Rate | D.G.M. Rate |
|---|---|---|---|---|---|---|
| Eagle Materials | $77.06 | $0.40 | - | - | - | - |
| Granite Construction | $37.19 | $0.52 | - | - | - | - |
| Martin Marietta | $110.85 | $1.60 | - | - | - | - |
| Vulcan Materials | $66.98 | $0.24 | - | - | - | - |

**Indicated Rate** **0.00%**

## COMMENTS ABOUT THE SAND AND GRAVEL INDUSTRY

## CALCULATION OF CAPITAL STRUCTURE

| Company Name | Total Debt | Long-Term Interest | Implied Coupon Rate* | Market Value of Debt** | Fair Value of Debt*** | Pref'd Divs | MV of Pref Eqty+ | Recent Stock Price | Shares Outstd | Market Value of Equity |
|---|---|---|---|---|---|---|---|---|---|---|
| Eagle Materials | 312.3 | 23.0 | 3.68% | 288.0 | - | - | - | 77.06 | 50.1 | 3,860.7 |
| Granite Construction | 271.3 | 25.0 | 4.61% | 299.3 | - | - | - | 37.19 | 38.9 | 1,446.7 |
| Martin Marietta | 1,618.2 | 53.5 | 1.65% | 850.1 | - | - | - | 110.85 | 46.3 | 5,132.4 |
| Vulcan Materials | 2,006.1 | 202.0 | 5.03% | 2,380.7 | - | - | - | 66.98 | 130.6 | 8,747.6 |
| **Total** | | | | **3,818.1** | | **-** | | | | **19,187.4** |

## CAPITAL STRUCTURE

| Company Name | Percent Debt & Preferred Equity | Percent Common Equity |
|---|---|---|
| Eagle Materials | 6.94% | 93.06% |
| Granite Construction | 17.14% | 82.86% |
| Martin Marietta | 14.21% | 85.79% |
| Vulcan Materials | 21.39% | 78.61% |
| **Mean** | **14.92%** | **85.08%** |
| **Weighted Mean** | **16.60%** | **83.40%** |

## REMARKS

* Implied Coupon Rate is a semi-annual rate.

** Market Value of Debt: 8.16% (Corporate Ba2)

*** Fair Value of Debt overrides the Market Value of Debt in calculation of Capital Structure.

+ Market Value of Pref. Equity: 4.74% (Baa)