

2016

CAPITALIZATION RATE STUDY FOR CENTRALLY ASSESSED PROPERTIES

FOR: JANUARY 1, 2016



UTAH STATE TAX COMMISSION

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

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UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
SUMMARY OF EQUITY RATES AND CAPITAL STRUCTURE

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Industry	Page	Debt Rate	Debt/Equity	Equity Yield Rate	WACC
COAL MINING	3	9.40%	70% / 30%	14.65%	10.98%
PRECIOUS METALS	6	6.96%	40% / 60%	9.56%	8.52%
NON-PRECIOUS METALS	9	5.46%	40% / 60%	12.61%	9.75%
NON-METALS	12	6.96%	20% / 80%	12.17%	11.13%
OIL & GAS PRODUCTION/WD	15	8.29%	45% / 55%	13.64%	11.23%
OIL & GAS GATHERING	18	6.96%	50% / 50%	14.97%	10.97%
SAND AND GRAVEL	21	7.15%	15% / 85%	11.30%	10.68%
URANIUM MINING	24	9.40%	10% / 90%	13.34%	12.95%



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

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CORPORATE BONDS

Aaa	3.97%
Aa	4.16%
A	4.38%
Baa	5.46%
Ba1	6.96%
Ba2	7.15%
Ba3	7.15%
B1	8.29%
B2	8.29%
B3	8.29%
Caa1	9.40%
Caa2	9.40%
Caa3	9.40%
Ca	12.56%
C	12.56%

PUBLIC UTILITY BONDS

Aaa	N/A
Aa	4.16%
A	4.35%
Baa	5.55%

PREFERRED STOCKS

Aaa	N/A
Aa	N/A
A	N/A
Baa	N/A

MISCELLANEOUS RATES

Risk-Free Rate	2.67%
Market Risk Premium	6.90%
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
2005	93.100	N/A	1.184
2006	95.580	2.66%	1.154
2007	97.956	2.49%	1.126
2008	99.815	1.90%	1.105
2009	100.169	0.35%	1.101
2010	101.949	1.78%	1.081
2011	103.917	1.93%	1.061
2012	105.935	1.94%	1.041
2013	107.589	1.56%	1.025
2014	109.067	1.37%	1.011
2015	110.254	1.09%	1.000

2016 - 2006 Average Change: 1.71%

**Source:
Website:**

MISCELLANEOUS INFORMATION

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

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

Coal Example = $[(1+0.1098)/(1+0.0171)] - 1 = 0.0912$

INDUSTRY	NOMINAL	REAL
Coal	10.98%	9.12%
Precious Metals	8.52%	6.70%
Non-Precious Metals	9.75%	7.91%
Non-Metals	11.13%	9.26%
Oil & Gas Production/WD	11.23%	9.36%
Oil & Gas Gathering	10.97%	9.11%
Sand & Gravel	10.68%	8.82%
Uranium	12.95%	11.05%

(tax-adjusted)	NOMINAL	REAL
Coal	13.70%	11.79%
Precious Metals	12.07%	10.19%
Non-Precious Metals	14.43%	12.51%
Non-Metals	17.16%	15.19%
Oil & Gas Production/WD	15.88%	13.94%
Oil & Gas Gathering	15.60%	13.66%
Sand & Gravel	16.63%	14.67%
Uranium	20.39%	18.37%



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
COAL MINING -- EQUITY RATE MODELS**

RECONCILIATION

Equity Models				Equity Rate
CAPM: Rule 62 Compliant				12.40%
CAPM: Supply Side				11.17%
CAPM: Implied ERP				11.17%
CAPM: Total NYSE				N/A
CAPM: Deciles 1 & 2				N/A
Division's Risk Premium				11.36%
DGM: Earnings & Dividend				23.66%
DGM: Plowback Ratio				N/A
Reconciled Equity Rate				14.65%
Reconciled Equity Rate	14.65%	30.00%	4.40%	
Debt Rate (Corporate Caa3)	9.40%	70.00%	6.58%	
Weighted Average Cost of Capital				10.98%
Reconciled Equity Rate	14.65%			
Tax-Adjusted (38.25%)	23.72%	30.00%	7.12%	
Industry Debt Rate	9.40%	70.00%	6.58%	
Tax-Adjusted Weighted Average Cost of Capital				13.70%

GUIDELINE COMPANY INFORMATION SUMMARY

Company Name	Tax Rate	Relative Financial Strength	Beta
Alliance Resource	NMF	1.00 (B+)	1.00
Alpha Natural Resources Inc.	NMF	1.44 (C)	2.15
Arch Coal	NMF	1.44 (C)	1.15
CONSOL Energy	NMF	1.00 (B+)	1.35
Peabody Energy	NMF	1.44 (C)	1.40
Selected	38.25%	1.26	1.41

CAPM: RULE 62 COMPLIANT

Item	Rate
Market Risk Premium	6.90%
x Industry Beta	1.41
Industry Risk Premium	9.73%
Add: Risk-Free Rate	2.67%
Indicated Rate	12.40%

CAPM: SUPPLY SIDE

Item	Rate
Market Risk Premium	6.03%
x Industry Beta	1.41
Industry Risk Premium	8.50%
Add: Risk-Free Rate	2.67%
Indicated Rate	11.17%

CAPM: IMPLIED ERP

Item	Rate
Market Risk Premium	6.03%
x Industry Beta	1.41
Industry Risk Premium	8.50%
Add: Risk-Free Rate	2.67%
Indicated Rate	11.17%

DIVISION'S RISK PREMIUM

Item	Rate
Market Risk Premium	6.90%
x Industry Financial Strength	1.26
Industry Risk Premium	8.69%
Add: Risk-Free Rate	2.67%
Indicated Rate	11.36%



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
COAL MINING -- DIVIDEND GROWTH MODELS**

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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	\$13.49	\$2.72	1.50%	5.50%	3.50%	23.66%
Alpha Natural Resources Inc.	\$0.01	-	-	-	-	-
Arch Coal	\$0.99	-	-	-	-	-
CONSOL Energy	\$7.90	\$0.04	8.00%	-24.00%	-8.00%	-
Peabody Energy	\$7.68	-	-	-	-	-
Indicated Rate						23.66%

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	\$13.49	\$2.72	-	-	-	-
Alpha Natural Resources Inc.	\$0.01	-	-	-	-	-
Arch Coal	\$0.99	-	-	-	-	-
CONSOL Energy	\$7.90	\$0.04	-	-	-	-
Peabody Energy	\$7.68	-	-	-	-	-
Indicated Rate						N/A

COMMENTS ABOUT THE COAL MINING INDUSTRY



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
COAL MINING -- CAPITAL STRUCTURE**

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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	953.1	30.0	1.57%	420.1	-	-	-	13.49	74.1	999.6
Alpha Natural Resources Inc.	3,897.8	275.0	3.53%	3,080.4	-	-	-	0.01	221.6	2.2
Arch Coal	5,160.4	390.0	3.78%	4,310.0	-	-	-	0.99	212.2	210.1
CONSOL Energy	3,737.0	140.0	1.87%	1,847.3	-	-	-	7.90	229.1	1,809.5
Peabody Energy	6,305.2	460.0	3.65%	5,118.4	-	-	-	7.68	278.3	2,137.0
Total				14,776.2			-			5,158.4

CAPITAL STRUCTURE

Company Name	Percent Debt & Preferred Equity	Percent Common Equity
Alliance Resource	29.59%	70.41%
Alpha Natural Resources Inc.	99.93%	0.07%
Arch Coal	95.35%	4.65%
CONSOL Energy	50.52%	49.48%
Peabody Energy	70.55%	29.45%
Mean	69.19%	30.81%
Weighted Mean	74.12%	25.88%

REMARKS

* Implied Coupon Rate is a semi-annual rate.

** Market Value of Debt: 9.40% (Corporate Caa3)

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

+ Market Value of Pref. Equity: N/A (Baa)



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
PRECIOUS METALS -- EQUITY RATE MODELS**

RECONCILIATION

Equity Models				Equity Rate
CAPM: Rule 62 Compliant				9.50%
CAPM: Supply Side				8.64%
CAPM: Implied ERP				8.64%
CAPM: Total NYSE				N/A
CAPM: Deciles 1 & 2				N/A
Division's Risk Premium				10.12%
DGM: Earnings & Dividend				3.83%
DGM: Plowback Ratio				N/A
Reconciled Equity Rate				9.56%
Reconciled Equity Rate	9.56%	60.00%		5.74%
Debt Rate (Corporate Ba1)	6.96%	40.00%		2.78%
Weighted Average Cost of Capital				8.52%
Reconciled Equity Rate	9.56%			
Tax-Adjusted (38.25%)	15.48%	60.00%		9.29%
Industry Debt Rate	6.96%	40.00%		2.78%
Tax-Adjusted Weighted Average Cost of Capital				12.07%

GUIDELINE COMPANY INFORMATION SUMMARY

Company Name	Tax Rate	Relative Financial Strength	Beta
Agnico Eagle Mines	53.20%	1.00 (B+)	0.75
Barrick Gold	65.99%	1.11 (B)	0.85
Coeur Mining Inc.	NMF	1.22 (C++)	1.30
Goldcorp Inc.	41.18%	0.89 (B++)	0.85
Hecla Mining	NMF	1.11 (B)	1.30
Kinross Gold	NMF	1.22 (C++)	1.00
Kirkland Lake Gold Inc	22.42%		0.90
New Gold Inc	NMF		1.10
Newmont Mining	37.15%	1.00 (B+)	0.85
Richmont Mines	24.79%		1.00
Selected	38.25%	1.08	0.99

CAPM: RULE 62 COMPLIANT

Item	Rate
Market Risk Premium	6.90%
x Industry Beta	0.99
Industry Risk Premium	6.83%
Add: Risk-Free Rate	2.67%
Indicated Rate	9.50%

CAPM: SUPPLY SIDE

Item	Rate
Market Risk Premium	6.03%
x Industry Beta	0.99
Industry Risk Premium	5.97%
Add: Risk-Free Rate	2.67%
Indicated Rate	8.64%

CAPM: IMPLIED ERP

Item	Rate
Market Risk Premium	6.03%
x Industry Beta	0.99
Industry Risk Premium	5.97%
Add: Risk-Free Rate	2.67%
Indicated Rate	8.64%

DIVISION'S RISK PREMIUM

Item	Rate
Market Risk Premium	6.90%
x Industry Financial Strength	1.08
Industry Risk Premium	7.45%
Add: Risk-Free Rate	2.67%
Indicated Rate	10.12%



UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
PRECIOUS METALS -- DIVIDEND GROWTH MODELS

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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	\$26.28	\$0.32	4.00%	-5.50%	-0.75%	-
Barrick Gold	\$7.38	\$0.08	-19.00%	-26.00%	-22.50%	-
Coeur Mining Inc.	\$2.48	-	-	-	-	-
Goldcorp Inc.	\$11.56	\$0.24	11.00%	-7.50%	1.75%	3.83%
Hecla Mining	\$1.89	-	1.00%	-	1.00%	-
Kinross Gold	\$1.82	-	-20.50%	-	-20.50%	-
Kirkland Lake Gold Inc	\$3.49	-	-	-	-	-
New Gold Inc	\$2.32	-	-4.95%	-	-4.95%	-
Newmont Mining	\$17.99	\$0.10	-12.00%	-31.50%	-21.75%	-
Richmont Mines	\$4.44	-	-	-	-	-

Indicated Rate

3.83%

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	\$26.28	\$0.32	-	-	-	-
Barrick Gold	\$7.38	\$0.08	-	-	-	-
Coeur Mining Inc.	\$2.48	-	-	-	-	-
Goldcorp Inc.	\$11.56	\$0.24	-	-	-	-
Hecla Mining	\$1.89	-	-	-	-	-
Kinross Gold	\$1.82	-	-	-	-	-
Kirkland Lake Gold Inc	\$3.49	-	-	-	-	-
New Gold Inc	\$2.32	-	-	-	-	-
Newmont Mining	\$17.99	\$0.10	-	-	-	-
Richmont Mines	\$4.44	-	-	-	-	-

Indicated Rate

N/A

COMMENTS ABOUT THE PRECIOUS METALS INDUSTRY



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
PRECIOUS METALS -- CAPITAL STRUCTURE**

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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	1,231.8	56.9	2.31%	923.0	-	-	-	26.28	214.2	5,629.2
Barrick Gold	12,321.0	800.0	3.25%	11,704.7	-	-	-	7.38	1,164.7	8,595.5
Coeur Mining Inc.	911.0	-	-	911.0	-	-	-	2.48	103.4	256.4
Goldcorp Inc.	2,699.0	24.0	0.44%	944.0	-	-	-	11.56	813.6	9,405.2
Hecla Mining	833.4	-	-	833.4	-	-	-	1.89	367.4	694.4
Kinross Gold	1,778.9	53.0	1.49%	1,020.5	-	-	-	1.82	1,144.6	2,083.2
Kirkland Lake Gold Inc	165.4	-	-	165.4	-	-	-	3.49	80.3	280.2
New Gold Inc	1,575.9	-	-	1,575.9	-	0.0	-	2.32	509.0	1,180.9
Newmont Mining	6,351.0	300.0	2.36%	4,829.8	-	0.0	-	17.99	498.7	8,971.6
Richmont Mines	41.5	-	-	41.5	-	0.0	-	4.44	33.1	147.0
Total				22,949.3			-			37,243.6

CAPITAL STRUCTURE

Company Name	Percent Debt & Preferred Equity	Percent Common Equity
Agnico Eagle Mines	14.09%	85.91%
Barrick Gold	57.66%	42.34%
Coeur Mining Inc.	78.04%	21.96%
Goldcorp Inc.	9.12%	90.88%
Hecla Mining	54.55%	45.45%
Kinross Gold	32.88%	67.12%
Kirkland Lake Gold Inc	37.12%	62.88%
New Gold Inc	57.16%	42.84%
Newmont Mining	35.00%	65.01%
Richmont Mines	22.02%	77.98%
Mean	39.76%	60.24%
Weighted Mean	38.13%	61.87%

REMARKS

* Implied Coupon Rate is a semi-annual rate.

** Market Value of Debt: 6.96% (Corporate Ba1)

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

+ Market Value of Pref. Equity: N/A (Baa)



UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
NON-PRECIOUS METALS -- EQUITY RATE MODELS

RECONCILIATION

Equity Models				Equity Rate
CAPM: Rule 62 Compliant				12.61%
CAPM: Supply Side				11.35%
CAPM: Implied ERP				0.00%
CAPM: Total NYSE				N/A
CAPM: Deciles 1 & 2				N/A
Division's Risk Premium				9.78%
DGM: Earnings & Dividend				9.70%
DGM: Plowback Ratio				N/A
Reconciled Equity Rate				12.61%
Reconciled Equity Rate	12.61%	60.00%	7.57%	
Debt Rate (Corporate Baa)	5.46%	40.00%	2.18%	
Weighted Average Cost of Capital				9.75%
Reconciled Equity Rate	12.61%			
Tax-Adjusted (38.25%)	20.42%	60.00%	12.25%	
Industry Debt Rate	5.46%	40.00%	2.18%	
Tax-Adjusted Weighted Average Cost of Capital				14.43%

GUIDELINE COMPANY INFORMATION SUMMARY

Company Name	Tax Rate	Relative Financial Strength	Beta
BHP Billiton Ltd. ADR	45.51%	0.89 (B++)	1.30
Freeport-McMoRan Inc.	32.57%	1.22 (C++)	1.50
Materion Corp.	26.43%	1.00 (B+)	1.45
Rio Tinto plc	26.98%	0.78 (A)	1.40
Southern Copper	36.24%	0.78 (A)	1.25
Taseko Mines Ltd	NMF		1.60
Teck Resources Ltd. 'B'	47.24%	1.22 (C++)	1.50
Thompson Creek Metals Company	NMF		1.55
Vale S.A. ADR	35.44%	1.33 (C+)	1.40
Selected	38.25%	1.03	1.44

CAPM: RULE 62 COMPLIANT

Item	Rate
Market Risk Premium	6.90%
x Industry Beta	1.44
Industry Risk Premium	9.94%
Add: Risk-Free Rate	2.67%
Indicated Rate	12.61%

CAPM: SUPPLY SIDE

Item	Rate
Market Risk Premium	6.03%
x Industry Beta	1.44
Industry Risk Premium	8.68%
Add: Risk-Free Rate	2.67%
Indicated Rate	11.35%

CAPM: IMPLIED ERP

Item	Rate
Market Risk Premium	6.03%
x Industry Beta	1.44
Industry Risk Premium	8.68%
Add: Risk-Free Rate	2.67%
Indicated Rate	11.35%

DIVISION'S RISK PREMIUM

Item	Rate
Market Risk Premium	6.90%
x Industry Financial Strength	1.03
Industry Risk Premium	7.11%
Add: Risk-Free Rate	2.67%
Indicated Rate	9.78%



UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
NON-PRECIOUS METALS -- DIVIDEND GROWTH MODELS

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	\$25.76	\$2.48	-6.50%	1.00%	-2.75%	-
Freep't-McMoRan Inc.	\$6.77	-	-0.50%	-5.00%	-2.75%	-
Materion Corp.	\$28.00	\$0.36	9.00%	7.00%	8.00%	9.29%
Rio Tinto plc	\$29.12	\$2.22	-1.50%	6.50%	2.50%	10.12%
Southern Copper	\$26.12	\$0.20	6.00%	-13.00%	-3.50%	-
Taseko Mines Ltd	\$0.34	-	-	-	-	-
Teck Resources Ltd. 'B'	\$5.34	\$0.10	-0.50%	-6.00%	-3.25%	-
Thompson Creek Metals Company	\$0.20	-	-	-	-	-
Vale S.A. ADR	\$3.29	\$0.10	12.50%	-17.50%	-2.50%	-
Indicated Rate						9.70%

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	\$25.76	\$2.48	-	-	-	-
Freep't-McMoRan Inc.	\$6.77	-	-	-	-	-
Materion Corp.	\$28.00	\$0.36	-	-	-	-
Rio Tinto plc	\$29.12	\$2.22	-	-	-	-
Southern Copper	\$26.12	\$0.20	-	-	-	-
Taseko Mines Ltd	\$0.34	-	-	-	-	-
Teck Resources Ltd. 'B'	\$5.34	\$0.10	-	-	-	-
Thompson Creek Metals Company	\$0.20	-	-	-	-	-
Vale S.A. ADR	\$3.29	\$0.10	-	-	-	-
Indicated Rate						N/A

COMMENTS ABOUT THE NON-PRECIOUS METALS INDUSTRY



UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
NON-PRECIOUS METALS -- CAPITAL STRUCTURE

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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	31,170.0	1,500.0	2.41%	28,731.5	-	-	-	25.76	2,660.6	68,537.1
Freep't-McMoRan Inc.	20,698.0	1,250.0	3.02%	22,146.1	-	-	-	6.77	1,039.0	7,034.0
Materion Corp.	46.2	3.0	3.25%	52.0	-	-	-	28.00	20.4	571.2
Rio Tinto plc	25,365.0	1,200.0	2.37%	23,131.3	-	-	-	29.12	1,849.9	53,869.1
Southern Copper	5,950.9	340.0	2.86%	6,133.1	-	-	-	26.12	812.6	21,225.1
Taseko Mines Ltd	623.4	-	-	623.4	-	-	-	0.34	221.8	75.4
Teck Resources Ltd. 'B'	9,684.0	600.0	3.10%	10,544.7	-	-	-	5.34	576.1	3,076.4
Thompson Creek Metals Company	1,854.5	-	-	1,854.5	-	-	-	0.20	214.1	42.8
Vale S.A. ADR	28,816.0	1,550.0	2.69%	28,533.9	-	-	-	3.29	5,244.3	17,253.7
Total				121,750.5			-			171,684.8

CAPITAL STRUCTURE

Company Name	Percent Debt & Preferred Equity	Percent Common Equity
BHP Billiton Ltd. ADR	29.54%	70.46%
Freep't-McMoRan Inc.	75.89%	24.11%
Materion Corp.	8.34%	91.66%
Rio Tinto plc	30.04%	69.96%
Southern Copper	22.42%	77.58%
Taseko Mines Ltd	89.21%	10.79%
Teck Resources Ltd. 'B'	77.41%	22.59%
Thompson Creek Metals Company	97.74%	2.26%
Vale S.A. ADR	62.32%	37.68%
Mean	54.77%	45.23%
Weighted Mean	41.49%	58.51%

REMARKS

* Implied Coupon Rate is a semi-annual rate.

** Market Value of Debt: 5.46% (Corporate Baa)

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

+ Market Value of Pref. Equity: N/A (Baa)



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

RECONCILIATION

Equity Models				Equity Rate
CAPM: Rule 62 Compliant				11.09%
CAPM: Supply Side				10.03%
CAPM: Implied ERP				10.03%
CAPM: Total NYSE				N/A
CAPM: Deciles 1 & 2				N/A
Division's Risk Premium				9.57%
DGM: Earnings & Dividend				18.29%
DGM: Plowback Ratio				5.55%
Reconciled Equity Rate				12.17%
Reconciled Equity Rate	12.17%	80.00%	9.74%	
Debt Rate (Corporate Ba1)	6.96%	20.00%	1.39%	
Weighted Average Cost of Capital				11.13%
Reconciled Equity Rate	12.17%			
Tax-Adjusted (38.25%)	19.71%	80.00%	15.77%	
Industry Debt Rate	6.96%	20.00%	1.39%	
Tax-Adjusted Weighted Average Cost of Capital				17.16%

GUIDELINE COMPANY INFORMATION SUMMARY

Company Name	Tax Rate	Relative Financial Strength	Beta
Compass Minerals Int'l	46.09%	1.00 (B+)	0.85
Eagle Materials	26.27%	1.00 (B+)	1.40
Intrepid Potash Inc	NMF	1.11 (B)	1.45
Martin Marietta	38.06%	0.89 (B++)	1.15
Mosaic Company	NMF	0.78 (A)	1.30
Potash Corp.	28.91%	0.89 (B++)	1.10
U S Lime & Minerals	25.29%	1.00 (B+)	0.85
USG Corp.	NMF	1.33 (C+)	1.65
Vulcan Materials	30.68%	1.00 (B+)	1.20
Selected	38.25%	1.00	1.22

CAPM: RULE 62 COMPLIANT

Item	Rate
Market Risk Premium	6.90%
x Industry Beta	1.22
Industry Risk Premium	8.42%
Add: Risk-Free Rate	2.67%
Indicated Rate	11.09%

CAPM: SUPPLY SIDE

Item	Rate
Market Risk Premium	6.03%
x Industry Beta	1.22
Industry Risk Premium	7.36%
Add: Risk-Free Rate	2.67%
Indicated Rate	10.03%

CAPM: IMPLIED ERP

Item	Rate
Market Risk Premium	6.03%
x Industry Beta	1.22
Industry Risk Premium	7.36%
Add: Risk-Free Rate	2.67%
Indicated Rate	10.03%

DIVISION'S RISK PREMIUM

Item	Rate
Market Risk Premium	6.90%
x Industry Financial Strength	1.00
Industry Risk Premium	6.90%
Add: Risk-Free Rate	2.67%
Indicated Rate	9.57%



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
NON-METALS -- DIVIDEND GROWTH MODELS**

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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	\$75.27	\$2.88	13.00%	8.50%	10.75%	14.58%
Eagle Materials	\$60.43	\$0.40	16.00%	6.00%	11.00%	11.66%
Intrepid Potash Inc	\$2.95	-	-	-	-	-
Martin Marietta	\$136.58	\$1.60	26.50%	2.00%	14.25%	15.42%
Mosaic Company	\$27.59	\$1.18	5.50%	15.00%	10.25%	14.53%
Potash Corp.	\$17.12	\$1.52	-	5.50%	5.50%	14.38%
U S Lime & Minerals	\$54.96	-	-	-	-	-
USG Corp.	\$24.29	-	57.50%	-	57.50%	-
Vulcan Materials	\$94.97	\$0.40	47.50%	30.00%	38.75%	39.17%
Indicated Rate						18.29%

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	\$75.27	\$2.88	29.50%	16.00%	4.72%	8.55%
Eagle Materials	\$60.43	\$0.40	14.00%	13.00%	1.82%	2.48%
Intrepid Potash Inc	\$2.95	-	-	-	-	-
Martin Marietta	\$136.58	\$1.60	9.50%	6.00%	0.57%	1.74%
Mosaic Company	\$27.59	\$1.18	12.50%	8.50%	1.06%	5.34%
Potash Corp.	\$17.12	\$1.52	18.50%	4.00%	0.74%	9.62%
U S Lime & Minerals	\$54.96	-	-	-	-	-
USG Corp.	\$24.29	-	25.50%	25.50%	6.50%	-
Vulcan Materials	\$94.97	\$0.40	12.50%	-	-	-
Indicated Rate						5.55%

COMMENTS ABOUT THE NON-METALS INDUSTRY



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
NON-METALS -- CAPITAL STRUCTURE**

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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	623.5	21.0	1.68%	383.6	-	-	-	75.27	33.6	2,529.1
Eagle Materials	509.7	10.4	1.02%	241.1	-	-	-	60.43	50.2	3,033.6
Intrepid Potash Inc	150.0	-	-	150.0	-	-	-	2.95	75.1	221.5
Martin Marietta	1,705.1	66.1	1.94%	1,142.0	-	-	-	136.58	67.3	9,191.8
Mosaic Company	3,789.3	140.0	1.85%	2,464.0	-	-	-	27.59	367.5	10,139.3
Potash Corp.	4,123.0	120.0	1.46%	2,334.7	-	-	-	17.12	830.2	14,213.0
U S Lime & Minerals	-	-	-	-	-	-	-	54.96	5.6	307.8
USG Corp.	2,188.0	160.0	3.66%	2,270.6	-	-	-	24.29	144.8	3,517.2
Vulcan Materials	1,979.6	243.0	6.14%	3,106.6	-	-	-	94.97	132.1	12,545.5
Total				12,092.6			-			55,698.8

CAPITAL STRUCTURE

Company Name	Percent Debt & Preferred Equity	Percent Common Equity
Compass Minerals Int'l	13.17%	86.83%
Eagle Materials	7.36%	92.64%
Intrepid Potash Inc	40.38%	59.62%
Martin Marietta	11.05%	88.95%
Mosaic Company	19.55%	80.45%
Potash Corp.	14.11%	85.89%
U S Lime & Minerals	-	100.00%
USG Corp.	39.23%	60.77%
Vulcan Materials	19.85%	80.15%
Mean	18.30%	81.70%
Weighted Mean	17.84%	82.16%

REMARKS

* Implied Coupon Rate is a semi-annual rate.

** Market Value of Debt: 6.96% (Corporate Ba1)

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

+ Market Value of Pref. Equity: N/A (Baa)



UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
OIL & GAS PRODUCTION/WD -- EQUITY RATE MODELS

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RECONCILIATION

Equity Models				Equity Rate
CAPM: Rule 62 Compliant				13.64%
CAPM: Supply Side				12.26%
CAPM: Implied ERP				12.26%
CAPM: Total NYSE				N/A
CAPM: Deciles 1 & 2				N/A
Division's Risk Premium				10.74%
DGM: Earnings & Dividend				13.57%
DGM: Plowback Ratio				N/A
Reconciled Equity Rate				13.64%
Reconciled Equity Rate	13.64%	55.00%	7.50%	
Debt Rate (Corporate B2)	8.29%	45.00%	3.73%	
Weighted Average Cost of Capital				11.23%
Reconciled Equity Rate	13.64%			
Tax-Adjusted (38.25%)	22.09%	55.00%	12.15%	
Industry Debt Rate	8.29%	45.00%	3.73%	
Tax-Adjusted Weighted Average Cost of Capital				15.88%

GUIDELINE COMPANY INFORMATION SUMMARY

Company Name	Tax Rate	Relative Financial Strength	Beta
Abraxas Petrol	NMF	1.22 (C++)	2.10
Bill Barrett Corp	39.78%	1.33 (C+)	1.65
Bonanza Creek Energy Inc.	35.63%	1.22 (C++)	2.30
Continental Resources	37.43%	1.00 (B+)	1.65
Earthstone Energy Inc	NMF	1.11 (B)	1.20
Emerald Oil Inc	NMF	1.44 (C)	2.10
Encana Corp.	NMF	1.22 (C++)	1.30
Legacy Reserves	NMF	1.22 (C++)	1.25
Linn Energy LLC	NMF	1.44 (C)	1.05
Matador Resources Company	36.76%	1.00 (B+)	1.55
Newfield Exploration	61.02%	1.00 (B+)	1.65
Pioneer Natural Res.	34.82%	0.78 (A)	1.45
QEP Resources	NMF	0.89 (B++)	1.45
Resolute Energy Corp	NMF	1.44 (C)	1.65
Royale Energy Inc	NMF	1.22 (C++)	1.40
SM Energy Co.	37.44%	1.11 (B)	1.60
Ultra Petroleum	NMF	1.22 (C++)	1.10
Warren Resources Inc	NMF	1.44 (C)	1.75
Whiting Petroleum	54.97%	0.89 (B++)	1.80
WPX Energy	36.77%	1.11 (B)	1.80
Selected	38.25%	1.17	1.59

CAPM: RULE 62 COMPLIANT

Item	Rate
Market Risk Premium	6.90%
x Industry Beta	1.59
Industry Risk Premium	10.97%
Add: Risk-Free Rate	2.67%
Indicated Rate	13.64%

CAPM: SUPPLY SIDE

Item	Rate
Market Risk Premium	6.03%
x Industry Beta	1.59
Industry Risk Premium	9.59%
Add: Risk-Free Rate	2.67%
Indicated Rate	12.26%

CAPM: IMPLIED ERP

Item	Rate
Market Risk Premium	6.03%
x Industry Beta	1.59
Industry Risk Premium	9.59%
Add: Risk-Free Rate	2.67%
Indicated Rate	12.26%

DIVISION'S RISK PREMIUM

Item	Rate
Market Risk Premium	6.90%
x Industry Financial Strength	1.17
Industry Risk Premium	8.07%
Add: Risk-Free Rate	2.67%
Indicated Rate	10.74%



UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
OIL & GAS PRODUCTION/WD -- DIVIDEND GROWTH MODELS

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	\$1.06	-	-	-	-	-
Bill Barrett Corp	\$3.93	-	15.00%	-	15.00%	-
Bonanza Creek Energy Inc.	\$5.27	-	-	-	-	-
Continental Resources	\$22.98	-	0.50%	-	0.50%	-
Earthstone Energy Inc	\$13.31	-	-	-	-	-
Emerald Oil Inc	\$1.13	-	-	-	-	-
Encana Corp.	\$5.09	\$0.06	-1.50%	-11.50%	-6.50%	-
Legacy Reserves	\$1.75	-	-	-	-	-
Linn Energy LLC	\$1.29	-	-1.50%	-	-1.50%	-
Matador Resources Company	\$19.77	-	-	-	-	-
Newfield Exploration	\$32.56	-	9.50%	-	9.50%	-
Pioneer Natural Res.	\$125.38	\$0.08	13.50%	21.00%	17.25%	17.31%
QEP Resources	\$13.40	\$0.11	1.50%	16.50%	9.00%	9.82%
Resolute Energy Corp	\$0.87	-	15.00%	-	15.00%	-
Royale Energy Inc	\$0.36	-	-	-	-	-
SM Energy Co.	\$19.66	-	25.50%	-	25.50%	-
Ultra Petroleum	\$2.50	-	-5.50%	-	-5.50%	-
Warren Resources Inc	\$0.21	-	-	-	-	-
Whiting Petroleum	\$9.44	-	5.50%	-	5.50%	-
WPX Energy	\$5.74	-	-	-	-	-
Indicated Rate						13.57%

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	\$1.06	-	-	-	-	-
Bill Barrett Corp	\$3.93	-	-	-	-	-
Bonanza Creek Energy Inc.	\$5.27	-	-	-	-	-
Continental Resources	\$22.98	-	-	-	-	-
Earthstone Energy Inc	\$13.31	-	-	-	-	-
Emerald Oil Inc	\$1.13	-	-	-	-	-
Encana Corp.	\$5.09	\$0.06	-	-	-	-
Legacy Reserves	\$1.75	-	-	-	-	-
Linn Energy LLC	\$1.29	-	-	-	-	-
Matador Resources Company	\$19.77	-	-	-	-	-
Newfield Exploration	\$32.56	-	-	-	-	-
Pioneer Natural Res.	\$125.38	\$0.08	-	-	-	-
QEP Resources	\$13.40	\$0.11	-	-	-	-
Resolute Energy Corp	\$0.87	-	-	-	-	-
Royale Energy Inc	\$0.36	-	-	-	-	-
SM Energy Co.	\$19.66	-	-	-	-	-
Ultra Petroleum	\$2.50	-	-	-	-	-
Warren Resources Inc	\$0.21	-	-	-	-	-
Whiting Petroleum	\$9.44	-	-	-	-	-
WPX Energy	\$5.74	-	-	-	-	-
Indicated Rate						N/A

COMMENTS ABOUT THE OIL & GAS PRODUCTION/WD INDUSTRY

[Empty box for comments]



UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
OIL & GAS PRODUCTION/WD -- CAPITAL STRUCTURE

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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	127.3	-	-	127.3	-	-	-	1.06	104.4	110.7
Bill Barrett Corp	803.9	-	-	803.9	-	-	-	3.93	48.1	189.0
Bonanza Creek Energy Inc.	837.7	-	-	837.7	-	-	-	5.27	41.3	217.7
Continental Resources	6,990.1	335.7	2.40%	4,628.8	-	-	-	22.98	371.9	8,546.3
Earthstone Energy Inc	11.2	-	-	11.2	-	-	-	13.31	13.8	183.7
Emerald Oil Inc	311.2	-	-	311.2	-	-	-	1.13	3.9	4.4
Encana Corp.	6,128.0	360.0	2.94%	4,694.3	-	-	-	5.09	741.2	3,772.7
Legacy Reserves	1,451.7	-	-	1,451.7	-	-	-	1.75	68.9	120.6
Linn Energy LLC	10,028.3	570.0	2.84%	7,496.8	-	-	-	1.29	332.0	428.3
Matador Resources Company	391.0	-	-	391.0	-	-	-	19.77	73.3	1,449.1
Newfield Exploration	2,450.0	125.0	2.55%	1,693.4	-	-	-	32.56	137.3	4,470.5
Pioneer Natural Res.	2,672.0	155.0	2.90%	2,027.8	-	-	-	125.38	149.0	18,681.6
QEP Resources	2,218.5	150.0	3.38%	1,890.0	-	-	-	13.40	175.4	2,350.4
Resolute Energy Corp	716.4	-	-	716.4	-	-	-	0.87	74.9	65.2
Royale Energy Inc	1.5	-	-	1.5	-	-	-	0.36	14.9	5.4
SM Energy Co.	2,534.0	-	-	2,534.0	-	-	-	19.66	67.5	1,327.1
Ultra Petroleum	3,430.0	170.0	2.48%	2,322.4	-	-	-	2.50	152.9	382.3
Warren Resources Inc	448.8	-	-	448.8	-	-	-	0.21	80.8	17.0
Whiting Petroleum	5,254.6	219.2	2.09%	3,158.4	-	-	-	9.44	122.5	1,156.4
WPX Energy	3,400.0	160.0	2.35%	2,219.6	-	-	-	5.74	203.7	1,169.2
Total				37,816.2						44,647.6

CAPITAL STRUCTURE		
Company Name	Percent Debt & Preferred Equity	Percent Common Equity
Abraxas Petrol	53.49%	46.51%
Bill Barrett Corp	80.96%	19.04%
Bonanza Creek Energy Inc.	80.31%	19.69%
Continental Resources	35.13%	64.87%
Earthstone Energy Inc	5.75%	94.25%
Emerald Oil Inc	98.61%	1.39%
Encana Corp.	55.44%	44.56%
Legacy Reserves	92.33%	7.67%
Linn Energy LLC	94.60%	5.40%
Matador Resources Company	21.25%	78.75%
Newfield Exploration	27.47%	72.53%
Pioneer Natural Res.	9.79%	90.21%
QEP Resources	44.57%	55.43%
Resolute Energy Corp	91.66%	8.34%
Royale Energy Inc	21.74%	78.26%
SM Energy Co.	65.63%	34.37%
Ultra Petroleum	85.87%	14.13%
Warren Resources Inc	96.35%	3.65%
Whiting Petroleum	73.20%	26.80%
WPX Energy	65.50%	34.50%
Mean	59.98%	40.02%
Weighted Mean	45.86%	54.14%

REMARKS
* Implied Coupon Rate is a semi-annual rate.
** Market Value of Debt: 8.29% (Corporate B2)
*** Fair Value of Debt overrides the Market Value of Debt in calculation of Capital Structure.
+ Market Value of Pref. Equity: N/A (Baa)



UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
OIL & GAS GATHERING -- EQUITY RATE MODELS

RECONCILIATION

Equity Models				Equity Rate
CAPM: Rule 62 Compliant				10.95%
CAPM: Supply Side				9.91%
CAPM: Implied ERP				9.91%
CAPM: Total NYSE				N/A
CAPM: Deciles 1 & 2				N/A
Division's Risk Premium				9.85%
DGM: Earnings & Dividend				21.01%
DGM: Plowback Ratio				N/A
Reconciled Equity Rate				14.97%
Reconciled Equity Rate	14.97%	50.00%	7.49%	
Debt Rate (Corporate Ba1)	6.96%	50.00%	3.48%	
Weighted Average Cost of Capital				10.97%
Reconciled Equity Rate	14.97%			
Tax-Adjusted (38.25%)	24.24%	50.00%	12.12%	
Industry Debt Rate	6.96%	50.00%	3.48%	
Tax-Adjusted Weighted Average Cost of Capital				15.60%

GUIDELINE COMPANY INFORMATION SUMMARY

Company Name	Tax Rate	Relative Financial Strength	Beta
Azure Midstream Partners LP	NMF	1.22 (C++)	1.70
Crestwood Equity Partners LP	NMF	1.33 (C+)	1.35
Energy Transfer	NMF	0.89 (B++)	0.80
EnLink Midstream Part.	NMF	1.00 (B+)	1.15
ONEOK Inc.	32.10%	1.00 (B+)	1.15
Plains All Amer. Pipe.	NMF	1.00 (B+)	0.95
Summit Midstream Partners LP	56.29%	1.11 (B)	1.40
Tallgrass Energy Partners LP	NMF	1.00 (B+)	1.25
Western Gas Partners LP	NMF	0.89 (B++)	0.90
Williams Cos.	31.38%	1.00 (B+)	1.35
Selected	38.25%	1.04	1.20

CAPM: RULE 62 COMPLIANT

Item	Rate
Market Risk Premium	6.90%
x Industry Beta	1.20
Industry Risk Premium	8.28%
Add: Risk-Free Rate	2.67%
Indicated Rate	10.95%

CAPM: SUPPLY SIDE

Item	Rate
Market Risk Premium	6.03%
x Industry Beta	1.20
Industry Risk Premium	7.24%
Add: Risk-Free Rate	2.67%
Indicated Rate	9.91%

CAPM: IMPLIED ERP

Item	Rate
Market Risk Premium	6.03%
x Industry Beta	1.20
Industry Risk Premium	7.24%
Add: Risk-Free Rate	2.67%
Indicated Rate	9.91%

DIVISION'S RISK PREMIUM

Item	Rate
Market Risk Premium	6.90%
x Industry Financial Strength	1.04
Industry Risk Premium	7.18%
Add: Risk-Free Rate	2.67%
Indicated Rate	9.85%



UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
OIL & GAS GATHERING -- DIVIDEND GROWTH MODELS

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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
Azure Midstream Partners LP	\$3.15	-	-	-	-	-
Crestwood Equity Partners LP	\$20.78	-	-	-	-	-
Energy Transfer	\$33.73	\$4.22	13.00%	4.50%	8.75%	21.26%
EnLink Midstream Part.	\$16.58	\$1.56	-	6.50%	6.50%	15.91%
ONEOK Inc.	\$24.66	\$2.63	9.50%	12.50%	11.00%	21.67%
Plains All Amer. Pipe.	\$23.10	\$2.83	8.00%	8.00%	8.00%	20.25%
Summit Midstream Partners LP	\$18.73	-	7.50%	-	7.50%	-
Tallgrass Energy Partners LP	\$41.21	-	19.00%	-	19.00%	-
Western Gas Partners LP	\$47.53	-	30.00%	-	30.00%	-
Williams Cos.	\$25.70	\$2.56	16.00%	16.00%	16.00%	25.96%
Indicated Rate						21.01%

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
Azure Midstream Partners LP	\$3.15	-	-	-	-	-
Crestwood Equity Partners LP	\$20.78	-	-	-	-	-
Energy Transfer	\$33.73	\$4.22	-	-	-	-
EnLink Midstream Part.	\$16.58	\$1.56	-	-	-	-
ONEOK Inc.	\$24.66	\$2.63	-	-	-	-
Plains All Amer. Pipe.	\$23.10	\$2.83	-	-	-	-
Summit Midstream Partners LP	\$18.73	-	-	-	-	-
Tallgrass Energy Partners LP	\$41.21	-	-	-	-	-
Western Gas Partners LP	\$47.53	-	-	-	-	-
Williams Cos.	\$25.70	\$2.56	-	-	-	-
Indicated Rate						N/A

COMMENTS ABOUT THE OIL & GAS GATHERING INDUSTRY



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
OIL & GAS GATHERING -- CAPITAL STRUCTURE**

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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
Azure Midstream Partners LP	225.7	-	-	225.7	-	-	-	3.15	18.1	57.0
Crestwood Equity Partners LP	2,537.4	-	-	2,537.4	-	-	-	20.78	18.6	386.5
Energy Transfer	27,450.0	860.0	1.57%	16,198.2	-	-	-	33.73	331.5	11,181.5
EnLink Midstream Part.	2,852.0	100.0	1.75%	1,797.0	-	-	-	16.58	245.4	4,068.7
ONEOK Inc.	8,721.7	380.0	2.18%	6,290.0	-	-	-	24.66	208.3	5,136.7
Plains All Amer. Pipe.	10,651.0	475.0	2.23%	7,798.6	-	-	-	23.10	375.1	8,664.8
Summit Midstream Partners LP	904.6	-	-	904.6	-	-	-	18.73	58.8	1,101.3
Tallgrass Energy Partners LP	696.0	-	-	696.0	-	-	-	41.21	49.0	2,019.3
Western Gas Partners LP	2,587.2	-	-	2,587.2	-	-	-	47.53	138.6	6,587.7
Williams Cos.	23,712.0	1,000.0	2.11%	16,746.2	-	-	-	25.70	747.0	19,197.9
Total				55,780.9						58,401.4

CAPITAL STRUCTURE

Company Name	Percent Debt & Preferred Equity	Percent Common Equity
Azure Midstream Partners LP	79.84%	20.16%
Crestwood Equity Partners LP	86.78%	13.22%
Energy Transfer	59.16%	40.84%
EnLink Midstream Part.	30.64%	69.36%
ONEOK Inc.	55.05%	44.95%
Plains All Amer. Pipe.	47.37%	52.63%
Summit Midstream Partners LP	45.10%	54.90%
Tallgrass Energy Partners LP	25.63%	74.37%
Western Gas Partners LP	28.20%	71.80%
Williams Cos.	46.59%	53.41%
Mean	50.43%	49.57%
Weighted Mean	48.85%	51.15%

REMARKS

* Implied Coupon Rate is a semi-annual rate.

** Market Value of Debt: 6.96% (Corporate Ba1)

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

+ Market Value of Pref. Equity: N/A (Baa)



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
SAND AND GRAVEL -- EQUITY RATE MODELS**

RECONCILIATION

Equity Models				Equity Rate
CAPM: Rule 62 Compliant				11.30%
CAPM: Supply Side				10.21%
CAPM: Implied ERP				0.00%
CAPM: Total NYSE				N/A
CAPM: Deciles 1 & 2				N/A
Division's Risk Premium				9.36%
DGM: Earnings & Dividend				22.37%
DGM: Plowback Ratio				N/A
Reconciled Equity Rate				11.30%
Reconciled Equity Rate	11.30%	85.00%	9.61%	
Debt Rate (Corporate Ba3)	7.15%	15.00%	1.07%	
Weighted Average Cost of Capital				10.68%
Reconciled Equity Rate	11.30%			
Tax-Adjusted (38.25%)	18.30%	85.00%	15.55%	
Industry Debt Rate	7.15%	15.00%	1.07%	
Tax-Adjusted Weighted Average Cost of Capital				16.63%

GUIDELINE COMPANY INFORMATION SUMMARY

Company Name	Tax Rate	Relative Financial Strength	Beta
Eagle Materials	26.27%	1.00 (B+)	1.40
Granite Construction	35.31%	1.00 (B+)	1.25
Martin Marietta	38.06%	0.89 (B++)	1.15
Summit Materials Inc	NMF		
Vulcan Materials	30.68%	1.00 (B+)	1.20
Selected	38.25%	0.97	1.25

CAPM: RULE 62 COMPLIANT

Item	Rate
Market Risk Premium	6.90%
x Industry Beta	1.25
Industry Risk Premium	8.63%
Add: Risk-Free Rate	2.67%
Indicated Rate	11.30%

CAPM: SUPPLY SIDE

Item	Rate
Market Risk Premium	6.03%
x Industry Beta	1.25
Industry Risk Premium	7.54%
Add: Risk-Free Rate	2.67%
Indicated Rate	10.21%

CAPM: IMPLIED ERP

Item	Rate
Market Risk Premium	6.03%
x Industry Beta	1.25
Industry Risk Premium	7.54%
Add: Risk-Free Rate	2.67%
Indicated Rate	10.21%

DIVISION'S RISK PREMIUM

Item	Rate
Market Risk Premium	6.90%
x Industry Financial Strength	0.97
Industry Risk Premium	6.69%
Add: Risk-Free Rate	2.67%
Indicated Rate	9.36%



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
SAND AND GRAVEL -- DIVIDEND GROWTH MODELS**

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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	\$60.43	\$0.40	16.00%	6.00%	11.00%	11.66%
Granite Construction	\$42.91	\$0.52	40.50%	3.50%	22.00%	23.21%
Martin Marietta	\$136.58	\$1.60	26.50%	2.00%	14.25%	15.42%
Summit Materials Inc	\$20.04	-	10.50%	-	10.50%	-
Vulcan Materials	\$94.97	\$0.40	47.50%	30.00%	38.75%	39.17%
Indicated Rate						22.37%

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	\$60.43	\$0.40	-	-	-	-
Granite Construction	\$42.91	\$0.52	-	-	-	-
Martin Marietta	\$136.58	\$1.60	-	-	-	-
Summit Materials Inc	\$20.04	-	-	-	-	-
Vulcan Materials	\$94.97	\$0.40	-	-	-	-
Indicated Rate						N/A

COMMENTS ABOUT THE SAND AND GRAVEL INDUSTRY



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
SAND AND GRAVEL -- CAPITAL STRUCTURE**

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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	509.7	10.4	1.02%	234.8	-	-	-	60.43	50.2	3,033.6
Granite Construction	275.9	20.0	3.62%	278.8	-	-	-	42.91	39.2	1,682.1
Martin Marietta	1,705.1	66.1	1.94%	1,116.0	-	-	-	136.58	67.3	9,191.8
Summit Materials Inc	1,216.2	-	-	1,216.2	-	-	-	20.04	118.0	2,365.1
Vulcan Materials	1,979.6	243.0	6.14%	3,050.4	-	-	-	94.97	132.1	12,545.5
Total				5,896.2			-			28,818.1

CAPITAL STRUCTURE

Company Name	Percent Debt & Preferred Equity	Percent Common Equity
Eagle Materials	7.18%	92.82%
Granite Construction	14.22%	85.78%
Martin Marietta	10.83%	89.17%
Summit Materials Inc	33.96%	66.04%
Vulcan Materials	19.56%	80.44%
Mean	17.15%	82.85%
Weighted Mean	16.98%	83.02%

REMARKS

* Implied Coupon Rate is a semi-annual rate.

** Market Value of Debt: 7.15% (Corporate Ba3)

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

+ Market Value of Pref. Equity: N/A (Baa)



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
URANIUM MINING -- EQUITY RATE MODELS**

RECONCILIATION

Equity Models				Equity Rate
CAPM: Rule 62 Compliant				13.57%
CAPM: Supply Side				12.20%
CAPM: Implied ERP				12.20%
CAPM: Total NYSE				N/A
CAPM: Deciles 1 & 2				N/A
Division's Risk Premium				10.33%
DGM: Earnings & Dividend				8.84%
DGM: Plowback Ratio				N/A
Reconciled Equity Rate				13.34%
Reconciled Equity Rate	13.34%	90.00%	12.01%	
Debt Rate (Corporate Caa1)	9.40%	10.00%	0.94%	
Weighted Average Cost of Capital				12.95%
Reconciled Equity Rate	13.34%			
Tax-Adjusted (38.25%)	21.60%	90.00%	19.44%	
Industry Debt Rate	9.40%	10.00%	0.94%	
Tax-Adjusted Weighted Average Cost of Capital				20.38%

GUIDELINE COMPANY INFORMATION SUMMARY

Company Name	Tax Rate	Relative Financial Strength	Beta
Cameco Corp.	NMF	1.00 (B+)	1.25
Denison Mines Corp	NMF		1.75
Quaterra Resources Inc	NMF		1.40
Uranium Energy Corp	NMF		1.60
Uranium Resources Inc	NMF	1.22 (C++)	1.95
Ur-Energy Inc	NMF		1.55
Selected	38.25%	1.11	1.58

CAPM: RULE 62 COMPLIANT

Item	Rate
Market Risk Premium	6.90%
x Industry Beta	1.58
Industry Risk Premium	10.90%
Add: Risk-Free Rate	2.67%
Indicated Rate	13.57%

CAPM: SUPPLY SIDE

Item	Rate
Market Risk Premium	6.03%
x Industry Beta	1.58
Industry Risk Premium	9.53%
Add: Risk-Free Rate	2.67%
Indicated Rate	12.20%

CAPM: IMPLIED ERP

Item	Rate
Market Risk Premium	6.03%
x Industry Beta	1.58
Industry Risk Premium	9.53%
Add: Risk-Free Rate	2.67%
Indicated Rate	12.20%

DIVISION'S RISK PREMIUM

Item	Rate
Market Risk Premium	6.90%
x Industry Financial Strength	1.11
Industry Risk Premium	7.66%
Add: Risk-Free Rate	2.67%
Indicated Rate	10.33%



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
URANIUM MINING -- DIVIDEND GROWTH MODELS**

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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
Cameco Corp.	\$17.07	\$0.40	6.50%	-	6.50%	8.84%
Denison Mines Corp	\$0.70	-	-	-	-	-
Quaterra Resources Inc	\$0.06	-	-	-	-	-
Uranium Energy Corp	\$1.06	-	-	-	-	-
Uranium Resources Inc	\$0.52	-	-	-	-	-
Ur-Energy Inc	\$0.65	-	-	-	-	-
Indicated Rate						8.84%

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
Cameco Corp.	\$17.07	\$0.40	-	-	-	-
Denison Mines Corp	\$0.70	-	-	-	-	-
Quaterra Resources Inc	\$0.06	-	-	-	-	-
Uranium Energy Corp	\$1.06	-	-	-	-	-
Uranium Resources Inc	\$0.52	-	-	-	-	-
Ur-Energy Inc	\$0.65	-	-	-	-	-
Indicated Rate						N/A

COMMENTS ABOUT THE URANIUM MINING INDUSTRY



**UTAH STATE TAX COMMISSION
PROPERTY TAX DIVISION
URANIUM MINING -- CAPITAL STRUCTURE**

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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
Cameco Corp.	1,517.8	65.0	2.14%	823.1	-	-	-	17.07	395.8	6,756.3
Denison Mines Corp	-	-	-	-	-	-	-	0.70	505.9	354.1
Quaterra Resources Inc	-	-	-	-	-	-	-	0.06	193.5	11.6
Uranium Energy Corp	-	-	-	-	-	-	-	1.06	97.8	103.7
Uranium Resources Inc	-	-	-	-	-	-	-	0.52	25.2	13.1
Ur-Energy Inc	-	-	-	-	-	-	-	0.65	129.4	84.1
Total				823.1						7,322.9

CAPITAL STRUCTURE

Company Name	Percent Debt & Preferred Equity	Percent Common Equity
Cameco Corp.	10.86%	89.14%
Denison Mines Corp	-	100.00%
Quaterra Resources Inc	-	100.00%
Uranium Energy Corp	-	100.00%
Uranium Resources Inc	-	100.00%
Ur-Energy Inc	-	100.00%
Mean	1.81%	98.19%
Weighted Mean	10.10%	89.90%

REMARKS

* Implied Coupon Rate is a semi-annual rate.

** Market Value of Debt: 9.40% (Corporate Caa1)

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

+ Market Value of Pref. Equity: N/A (Baa)