



**2022 Capitalization Rate Study  
Pipelines - Incorporated**

*FINAL*

*Completed: April 21, 2022*

**MONTANA DEPARTMENT OF REVENUE**

**Yield Capitalization Rate Conclusion**

**Industry: Pipelines - Incorporated**

**2022 Assessment Year**

**Capital Structure <sup>[1]</sup>**

Equity	<b>55.00%</b>
Debt	<b>45.00%</b>

**Equity Cost of Capital**

		<b>Weighting</b>
Capital Asset Pricing Model - Ex Post <sup>[2]</sup>	11.64%	35%
Capital Asset Pricing Model - Ex Ante <sup>[2]</sup>	9.62%	35%
3 Stage Dividend Discount Model - Dividends <sup>[3]</sup>	12.00%	15%
3 Stage Dividend Discount Model - Earnings <sup>[3]</sup>	17.50%	<u>15%</u>
Weighted Average	<u>11.87%</u>	100%
Selected Cost of Equity	<b><u>11.87%</u></b>	

**Debt Cost of Capital**

		<b>Weighting</b>
A - Mergent's - Avg. YTM of A Rated Corporate Bonds <sup>[4]</sup>	3.04%	0%
Baa - Mergent's - Avg. YTM of Baa Rated Corporate Bonds <sup>[4]</sup>	3.37%	60%
Ba - Avg of MTDOR Study, Bloomberg and Capital IQ <sup>[5]</sup>	5.31%	40%
B - Avg of MTDOR Study, Bloomberg and Capital IQ <sup>[5]</sup>	7.81%	<u>0%</u>
Weighted Average	<u>4.15%</u>	100%
Selected Cost of Debt	<b><u>4.15%</u></b>	

**Weighted Average Cost of Capital (WACC)**

<b>Source of Capital</b>	<b>Capital Structure</b>	<b>Capital Cost of Capital</b>	<b>Marginal Tax Rate</b>	<b>After-tax Cost of Capital</b>	<b>Weighted Cost</b>
Equity	55.00%	11.87%		11.87%	6.53%
Debt	45.00%	4.15%	24.00%	3.15%	1.42%
<b>WACC</b>	<b>100.00%</b>				<b>7.95%</b>
<b>WACC (Rounded)</b>					<b>7.95%</b>

Notes

[1] From worksheet: Capital Structure

[2] From worksheet: Capital Asset Pricing Model Summary

[3] From worksheet: Yield Equity Summary

[4] January 2022, Mergent Bond Record

[5] Average corporate bond yields from: Montana Department of Revenue High Yield Debt Study and Kroll Capitalization Rate Study.

**MONTANA DEPARTMENT OF REVENUE**

**Direct Capitalization Rate Conclusion  
Industry: Pipelines - Incorporated  
2022 Assessment Year**

**Capital Structure <sup>[1]</sup>**

Equity	<b>55.00%</b>
Debt	<b>45.00%</b>

**Equity Capitalization Rate <sup>[2]</sup>**

NOI After-tax	<b>6.00%</b>
GCF	<b>11.00%</b>

**Debt Capitalization Rate <sup>[3]</sup>**

Calculated Current Yield	<b>4.30%</b>
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**NOI After-tax Direct Capitalization Rate**

Source of Capital	Capital Structure	Capitalization Rate	Marginal Tax Rate	After-tax Capitalization Rate	Weighted Capitalization Rate
Equity	55.00%	6.00%		6.00%	3.30%
Debt	45.00%	4.30%	24.00%	3.27%	1.47%
<b>Total</b>	<b>100.00%</b>				<b>4.77%</b>
<b>Total (Rounded)</b>					<b>4.80%</b>

**GCF Direct Capitalization Rate**

Source of Capital	Capital Structure	Capitalization Rate	Marginal Tax Rate	After-tax Capitalization Rate	Weighted Capitalization Rate
Equity	55.00%	11.00%		11.00%	6.05%
Debt	45.00%	4.30%	24.00%	3.27%	1.47%
<b>WACC</b>	<b>100.00%</b>				<b>7.52%</b>
<b>Total (Rounded)</b>					<b>7.55%</b>

Notes:

- [1] From worksheet: Capital Structure
- [2] From worksheet: Direct Equity Summary
- [3] From worksheet: Calculated Current Yield

## MONTANA DEPARTMENT OF REVENUE

### Selection of Guideline Companies

Industry: Pipelines - Incorporated

2022 Assessment Year

#### Screening Requirements:

The universe of companies is all companies listed in Value Line under the Oil-Gas Distribution industry.

Companies were then selected using the following screening criteria:

1. Engaged primarily in providing midstream transportation services.
2. Incorporated as a corporation (not a partnership).
3. Actively traded on an American exchange.
4. Headquartered / incorporated in the United States
5. No significant merger & acquisition activity during the year.

Company Ticker	Midstream transportation	Not a partnership	Actively traded on an American exchange	Incorporated in U.S.	Consider as Potential Guideline Company	Not Engaged in Material M&A Activity	Use as Guideline Company	Note
ALTM	Yes	Yes	Yes	Yes	Yes	No	No	[1]
AM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
CLNE	No							
ENB.TO			No					
ENLC	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
INT	No							
KMI	Yes	Yes	Yes	Yes	Yes	No	Yes	[2]
LNG	No							
OKE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
PPL.TO			No					
TRP				No				
WMB	Yes	Yes	Yes	Yes	Yes	Yes	Yes	

[1] ALTM has agreed to a merger with BCP Raptor

[2] KMI's acquisition activity during the year was not significant enough to warrant exclusion from GPC selection

**MONTANA DEPARTMENT OF REVENUE**

Support for Capital Structure  
Industry: Pipelines - Incorporated  
2022 Assessment Year

(\$ and Shares Outstanding In Millions, Except Per Share Amounts)

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Ticker Symbol	Company	Industry Group	Financial Strength	Shares Outstanding	End of Year Closing Stock Price	MV Common Stock	MV Preferred Stock	MV Long Term Debt	PV of Operating Leases	Total Common, Preferred, LT Debt, & Op Leases	% Common	% Preferred	% Debt & Op Leases
		Value Line	Value Line	10-K	Yahoo	ExF	10-K	10-K	10-K	G+H+I+J	G/K	H/K	(I+J)/K
							Note [1]	Note [2]					
AM	Antero Midstream Corp.	OILGAS	C++	477	9.68	4,614	0	3,257	0	7,871	59%	0%	41%
ENLC	EnLink Midstream LLC	OILGAS	C+	484	6.89	3,337	0	4,520	85	7,942	42%	0%	58%
KMI	Kinder Morgan Inc.	OILGAS	B	2,267	15.86	35,961	0	37,778	315	74,054	49%	0%	51%
OKE	ONEOK Inc.	OILGAS	B+	446	58.76	26,215	0	15,643	89	41,947	62%	0%	38%
WMB	Williams Cos.	OILGAS	B	1,216	26.04	31,654	35	27,768	164	59,621	53%	0%	47%
<b>All Companies</b>						101,780	35	88,966	654	191,435	<b>53%</b>	<b>0%</b>	<b>47%</b>
<b>Average</b>											<b>53%</b>	<b>0%</b>	<b>47%</b>
<b>Median</b>											<b>53%</b>	<b>0%</b>	<b>47%</b>
<b>Trimmed Average</b>											<b>53%</b>	<b>0%</b>	<b>47%</b>
High											62%	0%	58%
Low											42%	0%	38%
<b>Say</b>											<b>55%</b>		<b>45%</b>

Notes:

- [1] Market value of preferred stock assumed to equal book value  
[2] Market value of debt is fair value of long term debt from 10-K notes

**MCA 15-1-210, rationale for changes to guideline companies:**  
2022 - ALTM was removed for merger activity

		<b>Median</b>	
Current Year	53%	0%	47%
Prior Year	49%	0%	51%
2 Years Prior	54%	0%	46%
3 Year Average	52%	0%	48%

**MONTANA DEPARTMENT OF REVENUE**

Capital Asset Pricing Model (CAPM)

Industry: Pipelines - Incorporated

2022 Assessment Year

$$k_e = R_f + \beta \times ERP$$

		<i>Ex Post</i>	<i>Ex Ante</i>
$k_e =$	Cost of Equity	<b>11.64%</b>	<b>9.62%</b>
$R_f =$	Risk Free Rate	1.94%	1.94%
$\beta =$	Beta	1.30	1.30
$ERP =$	Equity Risk Premium ( $R_m - R_f$ )	7.46%	5.91%
$R_m =$	Market Rate of Return	9.40%	7.85%

**Risk Free Rate Measures ( $R_f$ ):**

The Value Line Investment Survey: Selection & Opinion<sup>[1]</sup>

January 7, 2022 Page 2089

Selected Yields on Taxable U.S. Treasury Securities as of 12/27/21

10-year	1.48%
30-year	1.88%

Federal Reserve Statistical Release<sup>[2]</sup>

U.S. government securities, Treasury constant maturities, Nominal, December 31, 2021

10-year	1.52%
20-year	1.94%
30-year	1.90%

**Risk Free Rate Selected** **1.94%**

Notes

[1] "Value Line Selection & Opinion", Value Line (January 7, 2022)

[2] <https://www.federalreserve.gov/datadownload/Choose.aspx?rel=H.15>

**Ex Post - Equity Risk Premium Measures ( $ERP = R_m - R_f$ )**

Duff & Phelps, 2022 Cost of Capital Navigator

		<u><math>R_m</math></u>	<u><math>R_f</math></u>	<u>ERP</u>
ERP "Historical" - <i>Ex Post</i>	<i>Arithmetic Avg.</i>	9.40%	1.94%	7.46%
ERP "Supply-side" - <i>Ex Post</i>	<i>Arithmetic Avg.</i>	8.16%	1.94%	6.22%
<b>Ex Post Equity Risk Premium Selected</b>		<b><u>9.40%</u></b>	<b><u>1.94%</u></b>	<b><u>7.46%</u></b>

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**MONTANA DEPARTMENT OF REVENUE**

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Capital Asset Pricing Model (CAPM)

Industry: Pipelines - Incorporated

2022 Assessment Year

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$$k_e = R_f + \beta \times ERP$$

**Ex Ante - Equity Risk Premium Measures (ERP = Rm - Rf)**

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DOR 3 Stage Dividend Growth Model, S & P 500, See Exhibit

	<u>R<sub>m</sub></u>	<u>R<sub>f</sub></u>	<u>ERP</u>
ERP - <i>Ex Ante</i>	8.05%	1.94%	6.11%

Duff & Phelps, 2022 Cost of Capital Navigator

	<u>R<sub>m</sub></u>	<u>R<sub>f</sub></u>	<u>ERP</u>
ERP "Conditional" - <i>Ex Ante</i>	8.00%	2.50%	5.50%

Damodaran Implied ERP (Jan 5, 2022)

	<u>R<sub>m</sub></u>	<u>R<sub>f</sub></u>	<u>ERP</u>
Implied Premium (FCFE) - <i>Ex Ante</i>	5.76%	1.52%	4.24%
Implied Premium (FCFE with sustainable payout) - <i>Ex Ante</i>	6.42%	1.52%	4.90%

	<u>R<sub>m</sub></u>	<u>R<sub>f</sub></u>	<u>ERP</u>
<u>Average</u>	7.06%		5.19%
<u>Median</u>	7.21%		5.20%
<u>High</u>	8.05%		6.11%
<u>Low</u>	5.76%		4.24%

**Equity Risk Premium Selected**

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<b>7.85%</b>	<b>1.94%</b>	<b>5.91%</b>
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**MONTANA DEPARTMENT OF REVENUE**

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**Support for Beta Selection in CAPM****Industry: Pipelines - Incorporated****2022 Assessment Year**

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<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
<b>Ticker Symbol</b>	<b>Company</b>	<b>Industry Group</b>	<b>Financial Strength</b>	<b>Beta</b>
		<i>Value Line</i>	<i>Value Line</i>	<i>Value Line</i>
AM	Antero Midstream Corp.	OILGAS	C++	1.10
ENLC	EnLink Midstream LLC	OILGAS	C+	1.65
KMI	Kinder Morgan Inc.	OILGAS	B	1.15
OKE	ONEOK Inc.	OILGAS	B+	1.50
WMB	Williams Cos.	OILGAS	B	1.20
<b>Average</b>				<b>1.32</b>
<b>Median</b>				<b>1.20</b>
<b>Trimmed Average</b>				<b>1.28</b>
High				1.65
Low				1.10
<b>Say</b>				<b>1.30</b>



**MONTANA DEPARTMENT OF REVENUE**

Inflation & Real Growth  
Industry: Pipelines - Incorporated  
2022 Assessment Year

A	B	C	D	Nominal Growth	
				E	F
Source Description	Inflation (CPI)	Real Growth (GDP)	Nominal Growth	Low	High
Livingston Survey <sup>[1]</sup>	2.44%	2.21%	4.65%		
Survey of Professional Forecasters <sup>[2]</sup>	2.49%	2.25%	4.74%		
Congressional Budget Office <sup>[3]</sup>					
<b>Average</b>	<b>2.47%</b>	<b>2.23%</b>	<b>4.70%</b>		
<b>Median</b>	<b>2.47%</b>	<b>2.23%</b>	<b>4.70%</b>		
High	2.49%	2.25%	4.74%		
Low	2.44%	2.21%	4.65%		
<b>Selected</b>	<b>2.45%</b>	<b>2.25%</b>	<b>4.70%</b>	<b>4.65%</b>	<b>4.74%</b>

Inflationary Trend Factors						
Year	Dec. CPI-U Index	Percent Change From Previous	Dec. to Dec. Conversion Factor	Annual Avg. CPI-U Index	Percent Change From Previous	Annual Conversion Factor
	<i>Note [5]</i>	<i>Note [6]</i>	<i>Note [7]</i>	<i>Note [5]</i>	<i>Note [6]</i>	<i>Note [7]</i>
2011	225.672	2.9%	1.2354	224.939	3.1%	1.2046
2012	229.601	1.7%	1.2143	229.594	2.0%	1.1802
2013	233.049	1.5%	1.1963	232.957	1.4%	1.1632
2014	234.812	0.8%	1.1873	236.736	1.6%	1.1446
2015	236.525	0.7%	1.1787	237.017	0.1%	1.1433
2016	241.432	2.0%	1.1548	240.007	1.2%	1.1290
2017	246.524	2.1%	1.1309	245.120	2.1%	1.1055
2018	251.233	1.9%	1.1097	251.107	2.4%	1.0791
2019	256.974	2.2%	1.0849	255.657	1.8%	1.0599
2020	260.474	1.3%	1.0704	258.811	1.2%	1.0470
2021	278.802	6.6%	1.0000	270.970	4.5%	1.0000

Notes

[1] Federal Reserve Bank of Philadelphia The Livingston Survey December 17, 2021 Table 3 Inflation Rate and Real GDP mean

<https://www.philadelphiafed.org/research-and-data/real-time-center/livingston-survey>

[2] Federal Reserve Bank of Philadelphia Survey of Professional Forecasters February 11, 2022 Table 8 and Table 9 Average over next 10-Year mean

<https://www.philadelphiafed.org/surveys-and-data/real-time-data-research/survey-of-professional-forecasters>

[3] Not available at study date

<https://www.cbo.gov/about/products/budget-economic-data#4>

[5] Historical Consumer Price Index for All Urban Consumers (CPI-U): U.S. city average, all items, index averages (1982-84=100, unless otherwise noted)

<https://www.bls.gov/cpi/tables/supplemental-files/historical-cpi-u-202001.pdf>

[6] (Row year - Previous Year) / Row Year

[7] Most current year / Row year

**MONTANA DEPARTMENT OF REVENUE**

**3 Stage Dividend Discount Model (DDM)**

**Industry: Pipelines - Incorporated**

**2022 Assessment Year**

$$k_e = (D_1 / P_0) + g$$

$k_e$  = Cost of Equity

$D_1$  = Expected Dividend

$P_0$  = Current Price Per Share

$g$  = Sustainable Long-Term Growth

A	B	C	D	E	F	G	H	I
Ticker	Company	2021 Year End Stock Price	2022 Est Div'ds Decl'd per sh	Expected Equity Payout Yield	Sustainable Long-Term Growth Rate <sup>[1]</sup>	Sustainable Long-Term Growth Rate <sup>[1]</sup>	Cost of Equity Dividend Growth	Cost of Equity Earnings Growth
		<i>Yahoo</i>	<i>Value Line</i>	<i>D/C</i>	<i>Dividends</i>	<i>Earnings</i>	<i>E+F</i>	<i>E+G</i>
		$P_0$	$D_1$	$D_1/P_0$	$g$	$g$	$k_e$	$k_e$
AM	Antero Midstream Corp.	9.68	0.90	9.30%	10.22%	13.97%	19.52%	23.26%
ENLC	EnLink Midstream LLC	6.89	0.38	5.52%	2.25%	47.57%	7.77%	53.09%
KMI	Kinder Morgan Inc.	15.86	1.15	7.25%	8.01%	9.84%	15.26%	17.10%
OKE	ONEOK Inc.	58.76	3.90	6.64%	4.82%	10.82%	11.46%	17.46%
WMB	Williams Cos.	26.04	1.68	6.45%	5.55%	5.88%	12.00%	12.33%
<b>Average</b>							<b>13.20%</b>	<b>24.65%</b>
<b>Median</b>							<b>12.00%</b>	<b>17.46%</b>
<b>Timmed Average</b>							<b>12.91%</b>	<b>19.27%</b>
High							19.52%	53.09%
Low							7.77%	12.33%
<b>Selected</b>							<b>12.00%</b>	<b>17.50%</b>

Notes:

[1] From worksheet: DDM Sustainable Long-Term Growth

**MONTANA DEPARTMENT OF REVENUE**

**Support for DDM - Short Term Growth Rate Calculations**

**Industry: Pipelines - Incorporated**

**2022 Assessment Year**

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>
<b>Ticker</b>	<b>Company</b>	<b>End of Year Closing Stock Price</b>	<b>Div'ds Decl'd per sh 2022 Est</b>	<b>Expected Dividend Yield</b>	<b>Div'ds Decl'd per sh 2024-2026 Est</b>	<b>Short-Term Growth Rate</b>
		<i>Yahoo</i>	<i>Value Line</i>	<i>D / C</i>	<i>Value Line</i>	<i>Note [1]</i>
AM	Antero Midstream Corp.	9.68	0.90	9.30%	1.25	11.57%
ENLC	EnLink Midstream LLC	6.89	0.38	5.52%	0.38	0.00%
KMI	Kinder Morgan Inc.	15.86	1.15	7.25%	1.50	9.26%
OKE	ONEOK Inc.	58.76	3.90	6.64%	4.50	4.89%
WMB	Williams Cos.	26.04	1.68	6.45%	2.00	5.98%

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
<b>Ticker</b>	<b>Company</b>	<b>Earnings per share 2022 Est</b>	<b>Earnings per share 2024-2026 Est</b>	<b>Short-Term Growth Rate</b>
		<i>Value Line</i>	<i>Value Line</i>	<i>Note [1]</i>
AM	Antero Midstream Corp.	0.80	1.25	16.04%
ENLC	EnLink Midstream LLC	0.15	0.60	58.74%
KMI	Kinder Morgan Inc.	1.15	1.60	11.64%
OKE	ONEOK Inc.	3.80	5.50	13.12%
WMB	Williams Cos.	1.45	1.75	6.47%

Notes

[1] 4 year compound annual growth rate (CAGR) - 3 periods

**MONTANA DEPARTMENT OF REVENUE**

Support for DDM - Sustainable Long Term Growth

Industry: Pipelines - Incorporated

2022 Assessment Year

Dividend Growth Rate									Stage 1				
Ticker	Company	Year End Stock Price	Expected Short-Term Dividend Growth Rate	Expected Long-Term Growth Rate	Expected Dividend Yield	Internal Rate of Return	Implied Sustainable Long-Term Growth Rate (g)	Initial Investment	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	D <sub>5</sub>
		Yahoo	Note [1]	Note [2]	$D_1/P_0$	$K_e = IRR \text{ of } D_1 : D_{500}$	$g = IRR - Div. \text{ Yield}$						
AM	Antero Midstream Corp.	9.68	11.57%	4.70%	9.30%	19.52%	10.22%	(9.68)	0.90	1.00	1.12	1.25	1.39
ENLC	EnLink Midstream LLC	6.89	0.00%	4.70%	5.52%	7.77%	2.25%	(6.89)	0.38	0.38	0.38	0.38	0.38
KMI	Kinder Morgan Inc.	15.86	9.26%	4.70%	7.25%	15.26%	8.01%	(15.86)	1.15	1.26	1.37	1.50	1.64
OKE	ONEOK Inc.	58.76	4.89%	4.70%	6.64%	11.46%	4.82%	(58.76)	3.90	4.09	4.29	4.50	4.72
WMB	Williams Cos.	26.04	5.98%	4.70%	6.45%	12.00%	5.55%	(26.04)	1.68	1.78	1.89	2.00	2.12

Earnings Growth Rate									Stage 1				
Ticker	Company	Year End Stock Price	Expected Short-Term Earnings Growth Rate	Expected Long-Term Growth Rate	Expected Dividend Yield	Internal Rate of Return	Implied Sustainable Long-Term Growth Rate (g)	Initial Investment	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	D <sub>5</sub>
		Yahoo	Note [1]	Note [2]	$D_1/P_0$	$K_e = IRR \text{ of } D_1 : D_{500}$	$g = IRR - Div. \text{ Yield}$						
AM	Antero Midstream Corp.	9.68	16.04%	4.70%	9.30%	23.26%	13.97%	(9.68)	0.90	1.04	1.21	1.41	1.63
ENLC	EnLink Midstream LLC	6.89	58.74%	4.70%	5.52%	53.09%	47.57%	(6.89)	0.38	0.60	0.96	1.52	2.41
KMI	Kinder Morgan Inc.	15.86	11.64%	4.70%	7.25%	17.10%	9.84%	(15.86)	1.15	1.28	1.43	1.60	1.79
OKE	ONEOK Inc.	58.76	13.12%	4.70%	6.64%	17.46%	10.82%	(58.76)	3.90	4.41	4.99	5.64	6.39
WMB	Williams Cos.	26.04	6.47%	4.70%	6.45%	12.33%	5.88%	(26.04)	1.68	1.79	1.90	2.03	2.16

Notes:

[1] From worksheet: DDM Short Term Growth Rate Calculations

[2] From worksheet: Inflation & Real Growth

**MONTANA DEPARTMENT OF REVENUE**

Support for DDM - Sustainable Long Term Growth

Industry: Pipelines - Incorporated

2022 Assessment Year

Dividend	Stage 2															Stage 3		
Ticker	D <sub>6</sub>	D <sub>7</sub>	D <sub>8</sub>	D <sub>9</sub>	D <sub>10</sub>	D <sub>11</sub>	D <sub>12</sub>	D <sub>13</sub>	D <sub>14</sub>	D <sub>15</sub>	D <sub>16</sub>	D <sub>17</sub>	D <sub>18</sub>	D <sub>19</sub>	D <sub>20</sub>	D <sub>21</sub>	D <sub>22</sub>	D <sub>500</sub>
AM	1.55	1.72	1.91	2.13	2.36	2.62	2.92	3.24	3.60	4.00	4.45	4.94	5.49	6.10	6.78	7.09	7.43	25,433,470,885
ENLC	0.38	0.38	0.38	0.38	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.40	0.40	0.40	0.42	0.44	1,494,757,466
KMI	1.79	1.95	2.12	2.31	2.52	2.74	2.99	3.26	3.55	3.86	4.21	4.59	5.00	5.45	5.93	6.21	6.51	22,272,871,174
OKE	4.95	5.19	5.44	5.71	5.99	6.28	6.59	6.91	7.24	7.60	7.97	8.35	8.76	9.19	9.64	10.09	10.56	36,166,507,372
WMB	2.24	2.38	2.52	2.67	2.82	2.99	3.17	3.35	3.55	3.76	3.98	4.22	4.47	4.73	5.01	5.24	5.49	18,793,923,623

Earnings	Stage 2															Stage 3		
Ticker	D <sub>6</sub>	D <sub>7</sub>	D <sub>8</sub>	D <sub>9</sub>	D <sub>10</sub>	D <sub>11</sub>	D <sub>12</sub>	D <sub>13</sub>	D <sub>14</sub>	D <sub>15</sub>	D <sub>16</sub>	D <sub>17</sub>	D <sub>18</sub>	D <sub>19</sub>	D <sub>20</sub>	D <sub>21</sub>	D <sub>22</sub>	D <sub>500</sub>
AM	1.88	2.17	2.50	2.88	3.32	3.83	4.42	5.09	5.87	6.77	7.80	8.99	10.37	11.95	13.78	14.43	15.10	51,712,703,730
ENLC	3.74	5.81	9.01	13.98	21.68	33.64	52.19	80.96	125.60	194.85	302.28	468.95	727.52	1,128.66	1,750.97	1,833.27	1,919.43	6,571,831,371,620
KMI	1.99	2.21	2.45	2.73	3.03	3.37	3.75	4.17	4.63	5.15	5.73	6.37	7.08	7.87	8.75	9.16	9.59	32,840,017,515
OKE	7.19	8.09	9.10	10.25	11.53	12.98	14.61	16.45	18.51	20.84	23.45	26.40	29.71	33.44	37.64	39.41	41.26	141,279,129,164
WMB	2.30	2.44	2.60	2.76	2.94	3.12	3.32	3.53	3.76	4.00	4.25	4.52	4.81	5.11	5.44	5.69	5.96	20,405,163,085

**MONTANA DEPARTMENT OF REVENUE**

Support for Yield Capitalization Rate - Debt Rating

Industry: Pipelines - Incorporated

2022 Assessment Year

A	B	C	D	E	F
Ticker Symbol	Company	Industry Group	Financial Strength	Moody's Long Term Rating	Yield to Maturity
		<i>Value Line</i>	<i>Value Line</i>	<i>Moody's.com</i>	
AM	Antero Midstream Corp.	OILGAS	C++	Ba2	5.31%
ENLC	EnLink Midstream LLC	OILGAS	C+	Ba2	5.31%
KMI	Kinder Morgan Inc.	OILGAS	B	Baa2	3.37%
OKE	ONEOK Inc.	OILGAS	B+	Baa3	3.37%
WMB	Williams Cos.	OILGAS	B	Baa2	3.37%
<b>All Companies</b>					
<b>Average</b>					<b>4.15%</b>
<b>Median</b>					<b>3.37%</b>
<b>Trimmed Average</b>					<b>4.02%</b>
High					5.31%
Low					3.37%
<b>Say</b>					<b>4.15%</b>

**MONTANA DEPARTMENT OF REVENUE**

Support for Direct Capitalization - Equity Capitalization Rates

Industry: Pipelines - Incorporated

2022 Assessment Year

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
Ticker Symbol	Company	End of Year Closing Stock Price	VL Historic EPS	VL Est EPS	VL Historic P/E Ratio	VL Est P/E Ratio	Ke Estimate - Earnings (Hist. P/E)	Ke Estimate - Earnings (Est. P/E)	VL Historic Cash Flow Per Share	VL Est Cash Flow Per Share	VL Historic P/CF Ratio	VL Est P/CF Ratio	Ke Estimate - Cash Flow (Hist. P/CF)	Ke Estimate - Cash Flow (Est. P/CF)	Market Value of Equity	Book Value of Equity	MTBR
		Yahoo	Value Line	Value Line	C/D	C/E	1/F	1/G	Value Line	Value Line	C/J	C/K	1/L	1/M	Price x Shrs	Value Line	P/Q
AM	Antero Midstream Corp.	9.68	0.71	0.85	13.63	11.39	7.33%	8.78%	1.38	1.15	7.01	8.42	14.26%	11.88%	4,614	2,418	1.91
ENLC	EnLink Midstream LLC	6.89	0.04	0.15	172.25	45.93	0.58%	2.18%	0.41	1.35	16.80	5.10	5.95%	19.59%	3,337	1,494	2.23
KMI	Kinder Morgan Inc.	15.86	0.78	1.15	20.33	13.79	4.92%	7.25%	1.73	2.15	9.17	7.38	10.91%	13.56%	35,961	30,823	1.17
OKE	ONEOK Inc.	58.76	3.36	3.80	17.49	15.46	5.72%	6.47%	3.77	4.85	15.59	12.12	6.42%	8.25%	26,215	6,042	4.34
WMB	Williams Cos.	26.04	1.35	1.45	19.29	17.96	5.18%	5.57%	2.52	3.00	10.33	8.68	9.68%	11.52%	31,654	11,769	2.69
<b>Average</b>					<b>48.60</b>	<b>20.91</b>	<b>4.75%</b>	<b>6.05%</b>			<b>11.78</b>	<b>8.34</b>	<b>9.44%</b>	<b>12.96%</b>			<b>2.47</b>
<b>Median</b>					<b>19.29</b>	<b>15.46</b>	<b>5.18%</b>	<b>6.47%</b>			<b>10.33</b>	<b>8.42</b>	<b>9.68%</b>	<b>11.88%</b>			<b>2.23</b>
<b>Trimmed Average</b>					<b>19.04</b>	<b>15.74</b>	<b>5.27%</b>	<b>6.43%</b>			<b>11.70</b>	<b>8.16</b>	<b>9.00%</b>	<b>12.32%</b>			<b>2.28</b>
High					172.25	45.93	7.33%	8.78%			16.80	12.12	14.26%	19.59%			4.34
Low					13.63	11.39	0.58%	2.18%			7.01	5.10	5.95%	8.25%			1.17
<b>Say</b>							<b>6.00%</b>					<b>11.00%</b>				<b>2.28</b>	

**MONTANA DEPARTMENT OF REVENUE**

Support for Direct Capitalization - Debt Capitalization Rate

Industry: Pipelines - Incorporated

2022 Assessment Year

(\$ in Millions)

A	B	C	D	E	F	G	H	I	J
Ticker	Company	Current Year Interest Exp.	Previous Year MV LT Debt	Previous Year BV LT Debt	Current Year MV LT Debt	Current Year BV LT Debt	Average MV LT Debt	Current Yield	MTBR
	<i>Source</i>	<i>10-K</i>	<i>10-K</i>	<i>10-K</i>	<i>10-K</i>	<i>10-K</i>	<i>(D+F)/2</i>	<i>(C/H)</i>	<i>(F/G)</i>
AM	Antero Midstream Corp.	110	3,109	3,123	3,257	3,092	3,183	3.47%	1.05
ENLC	EnLink Midstream LLC	239	4,318	4,594	4,520	4,364	4,419	5.40%	1.04
KMI	Kinder Morgan Inc.	1,492	39,622	34,689	37,778	33,320	38,700	3.86%	1.13
OKE	ONEOK Inc.	733	16,336	14,236	15,643	13,643	15,990	4.58%	1.15
WMB	Williams Cos.	1,190	27,043	22,344	27,768	23,675	27,406	4.34%	1.17
	<b>All Companies</b>	3,764			88,966	78,094	89,697	<b>4.20%</b>	<b>1.14</b>
	<b>Average</b>							<b>4.33%</b>	<b>1.11</b>
	<b>Median</b>							<b>4.34%</b>	<b>1.13</b>
	<b>Trimmed Average</b>							<b>4.26%</b>	<b>1.11</b>
	High							5.40%	1.17
	Low							3.47%	1.04
	<b>Say</b>							<b>4.30%</b>	<b>1.11</b>



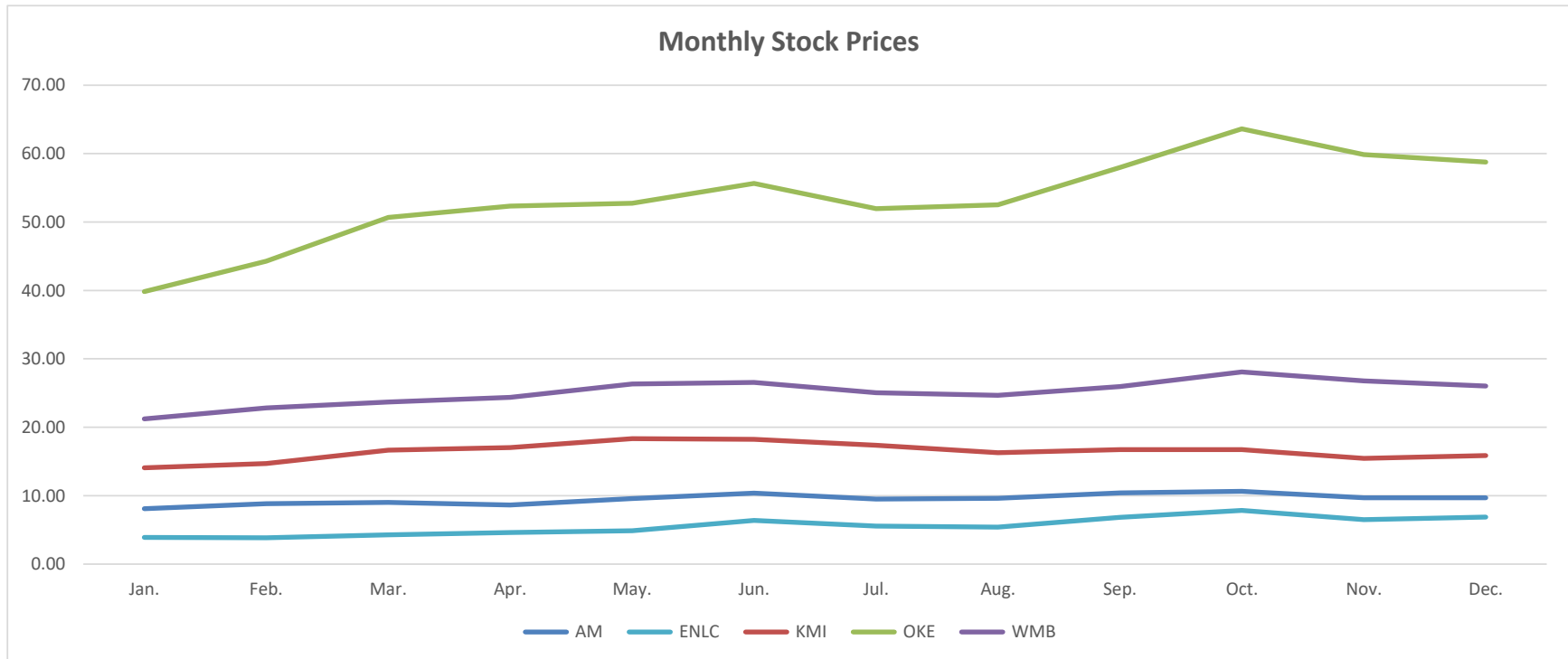
**MONTANA DEPARTMENT OF REVENUE**

Support of Stock Price - From YAHOO Finance

Industry: Pipelines - Incorporated

2022 Assessment Year

		End of Period Closing Stock Price											
1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	B	C	D	E	F	G	H	I	J	K	L	M	N
Ticker	Company	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
AM	Antero Midstream Corp.	8.10	8.82	9.03	8.64	9.60	10.39	9.50	9.61	10.42	10.64	9.71	9.68
ENLC	EnLink Midstream LLC	3.89	3.85	4.29	4.63	4.88	6.39	5.57	5.39	6.82	7.85	6.51	6.89
KMI	Kinder Morgan Inc.	14.08	14.70	16.65	17.05	18.34	18.23	17.38	16.27	16.73	16.75	15.46	15.86
OKE	ONEOK Inc.	39.83	44.29	50.66	52.34	52.74	55.64	51.97	52.52	57.99	63.62	59.84	58.76
WMB	Williams Cos.	21.23	22.84	23.69	24.36	26.34	26.55	25.05	24.69	25.94	28.09	26.79	26.04



**MONTANA DEPARTMENT OF REVENUE**

**Maintenance Capital Expenditures Estimate Based on Guideline Companies**

**Industry: Pipelines - Incorporated**

**2022 Assessment Year**

(\$ In Millions)

1	2		3	4	5	6	7	8	9	10	11
A	B	C	D	E	F	G	H	I	J	K	L
Ticker	Company	Inflation	PP&E, Gross	PP&E, Gross	Average PP&E	Depreciation Expense	Average Life of Assets			Replacement Cost (RC)	RC as % of Depreciation
			Current Year	Previous Year		Current Year		Note [1]	Note [1]	Note [1]	
		MTDOR (CPI)	10-K, Notes	10-K, Notes	(D+E)/2	10-K	F/G	C*H	1/(1+C)^H	G*I/(1-J)	K/G
AM	Antero Midstream Corp.	2.45%	3,412	3,661	3,536	96	37	0.91	0.41	146	153.25%
ENLC	EnLink Midstream LLC	2.45%	10,720	10,515	10,618	608	17	0.43	0.66	754	124.14%
KMI	Kinder Morgan Inc.	2.45%	54,445	53,654	54,050	2,135	25	0.62	0.54	2,890	135.38%
OKE	ONEOK Inc.	2.45%	23,821	23,073	23,447	622	38	0.92	0.40	960	154.35%
WMB	Williams Cos.	2.45%	44,184	42,489	43,337	1,842	24	0.58	0.57	2,445	132.76%
<b>Average</b>											139.98%
<b>Median</b>											135.38%
<b>Trimmed Average</b>											140.46%
High											154.35%
Low											124.14%
<b>Selected</b>											<b>135.40%</b>

Notes

[1] Cornell, B. & Gerger, R. (2017). Estimating Terminal Values with Inflation: The Inputs Matter-It Is Not a Formulaic Exercise. *Business Valuation Review*, Volume 36, Number 4, 117-123.