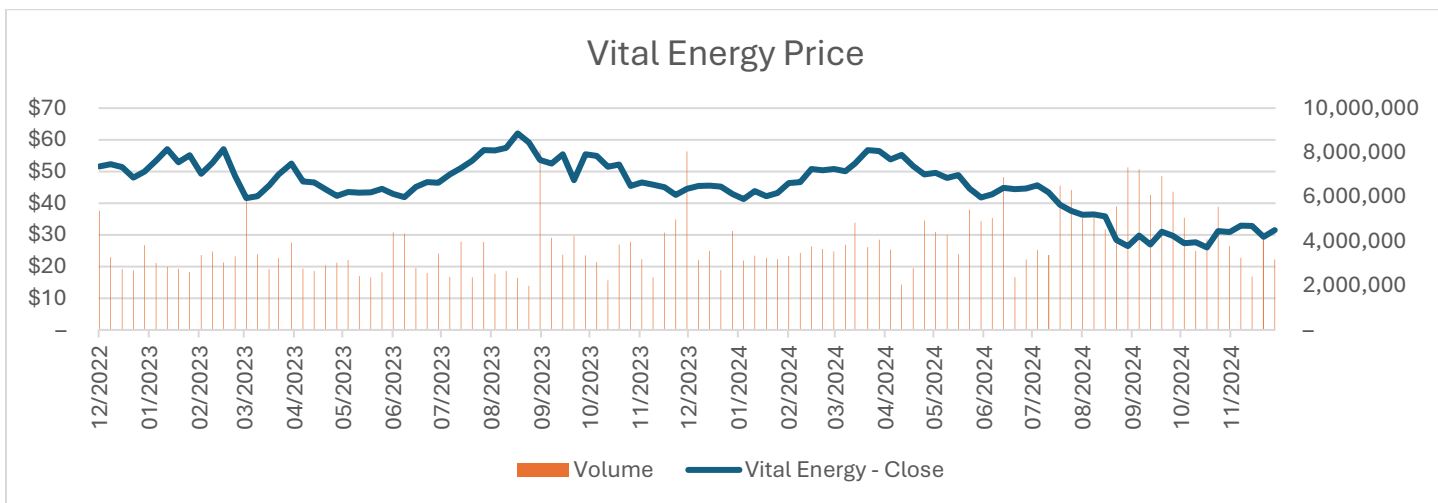




Business Description

Vital Energy, Inc. (VTLE) is an exploration and production company engaged in Oil and Gas exploration with a primary focus on the Permian Basin. Founded in 2006 as Laredo Petroleum, VTLE operated as a small-time player in the Midland Basin until 2023 when the company embarked upon a series of acquisitions, especially in the Delaware Basin. As of Q3 2024, the largest single acquisition (Point Energy) has been completed and VTLE is poised to achieve 'midsize' status as acquisitions come online.

Valuation Date	December 2, 2024
Call	Buy
Target Price	\$44.36 (+34.9%)
Current Price	\$32.88
PE Ratio (TTM)	2.08



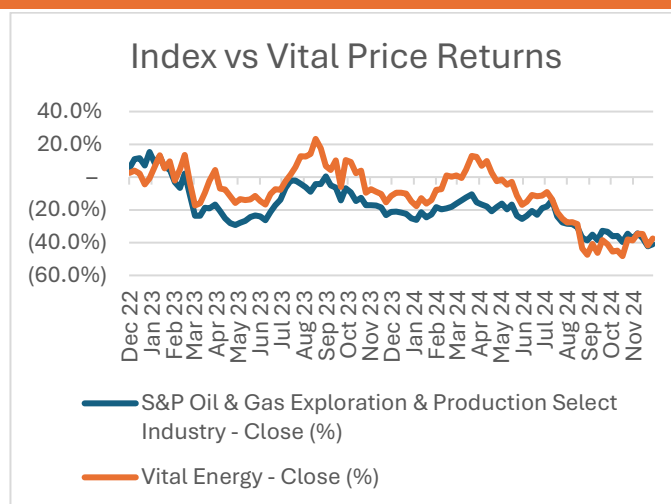
Investment Thesis

Market Overlooking Non-Linear Oil Price Impact and Options Valuation: The current market valuation fails to account for the non-linear relationship between oil prices and Vital Energy's value and the insights from the options market. Our probabilistic modeling using futures options indicates a higher expected share value, suggesting that the company is undervalued due to these overlooked factors.

Recent Acquisitions Amplify Growth Potential Yet to Be Realized by the Market: Vital Energy's series of significant acquisitions, including the recent \$815 million purchase of Point Energy assets, has substantially increased its undeveloped reserves and positioned it for midsize status. The market has not fully incorporated the impact of these acquisitions into the company's valuation, presenting a unique investment opportunity as these assets come online.

Acquisitions

In 2023, Vital Energy completed one business combination and five asset acquisitions, adding approximately 88,050 net acres in the Midland and Delaware Basins for a total consideration of \$1.6 billion.¹ More recently, in September 2024, the company acquired 80% of Point Energy's assets for \$815 million.² Despite these significant acquisitions, Vital Energy's performance over a two-year period has been roughly in line with the broader E&P index. This suggests that the market perceives Vital Energy as an average acquirer of oil and gas resources, neither underperforming nor significantly exceeding industry expectations in terms of value creation.



Methodology

In our valuation report, we take a straightforward approach to projecting oil and gas revenues. The process begins with recognizing that companies hold undeveloped reserves—resources not yet tapped. Companies then allocate capital to transform these reserves into developed reserves, ready for extraction. Once developed, these reserves yield oil, natural gas, and liquefied natural gas, which are sold to generate revenue. This methodical process is the foundation of our revenue projections.

As part of our analysis, we account for the costs required to extract the oil, but we do not factor in the impact of acquisitions. This approach is supported by Vital Energy's performance relative to the broader market. When compared to the index, Vital Energy's price returns suggest that the company is acquiring assets at market value and generating average returns, which explains why its performance aligns closely with index trends despite ongoing acquisitions.

Undeveloped Reserves

In our analysis, we are assuming efficiency in the buying and selling of future reserves, meaning we will focus solely on the depletion of current reserves. However, it's important to note that reserve figures are typically only updated in annual reports, which means recent reserve increases from acquisitions are not yet reflected in the reported numbers.

For example, Vital Energy's acquisition of Point Energy in September 2024 added 15,790 Mbbbl (64% oil) to its reserves, but this increase has not been incorporated into the reported undeveloped reserves. To adjust for this, we've added the estimated oil percentage to our undeveloped oil reserves and allocated the remaining 36% evenly between LNG and natural gas.

¹ [Vital Energy Reports Fourth-Quarter and Full-Year 2023 Financial and Operating Results | Vital Energy](#)

² [Vital Energy to Expand Delaware Basin Position Through Bolt-on Acquisition | Vital Energy](#)

Depletion Rate

To calculate the yearly depletion rate, we divided production by the average of the previous year's reserves. For Vital Energy, this has averaged 10.23% over the past four years. Looking ahead, we are projecting a 10% depletion rate to continue indefinitely. However, it's worth noting that this rate will likely decline significantly over time, leading to faster production. This accelerated production would pull forward cash flows, ultimately increasing the company's valuation.

$$\text{depletion rate} = \frac{\text{production}_{\text{current}}}{(\text{reserves}_{\text{current}} + \text{reserves}_{\text{previous}}) / 2}$$

Date	Reserves	Production	Depletion Rate
12/31/2019	293,377	29,522	
12/31/2020	278,228	32,117	11.2%
12/31/2021	318,640	29,826	10.0%
12/31/2022	302,318	30,076	9.7%
12/31/2023	404,883	35,256	10.0%

Production Total

Using our depletion rate, we can estimate yearly production totals for oil, LNG, and NGL. Our projection assumes that each year's production will be the previous year's output reduced by the depletion rate, with the caveat that production cannot exceed the total developed reserves available.

$$\text{production}_{\text{current}} = \min(\text{production}_{\text{previous}} \times (1 - \text{depletion rate}), \text{developed reserves}_{\text{previous}})$$

Development

Each year, Vital Energy provides an estimate of the capital required to develop its remaining undeveloped reserves. Using this data, we've taken the estimated development capex and assumed that the undeveloped reserves as of 2024 are developed in proportion to the capital spent on their development. This allows us to align reserve growth with the company's investment strategy.

$$\% \text{ of 2024 reserves to develop}_{\text{year}} = \frac{\text{expected capex}_{\text{year}}}{\sum_{\text{year}=2025}^{2029} \text{expected capex}_{\text{year}}}$$

Year	2025E	2026E	2027E	2028E	2029E
Development CapEx	\$566,800	\$335,400	\$398,300	\$271,300	\$83,600
% Reserves to develop	34.2%	20.3%	24.1%	16.4%	5.1%

Reserves & Production

By factoring in the increase in undeveloped reserves, depletion rate, production levels, and development spending, we can create a forward-looking projection that accurately reflects Vital's future capacity.

Reserves	Q4 2024A	2025E	2026E	2027E	2028E	2029E	2030E
Oil (MBbl)							
Undeveloped	64,896	42,676	29,527	13,913	3,277	–	–
- Production	5,387	19,400	17,465	15,724	14,156	12,745	11,474
+ Development		22,220	13,149	15,614	10,636	3,277	–
Developed	83,445	86,265	81,949	81,839	78,319	68,851	57,377
NG (MMcf)							
Undeveloped	203,762	133,995	92,711	43,684	10,290	–	–
- Production	19,319	69,572	62,636	56,390	50,768	45,706	41,149
+ Development		69,767	41,284	49,026	33,394	10,290	–
Developed	478,195	478,389	457,038	449,674	432,300	396,884	355,735
NGL (MBbl)							
Undeveloped	34,796	22,882	15,832	7,460	1,757	–	–
- Production	3,189	11,484	10,339	9,308	8,380	7,545	6,792
+ Development		11,914	7,050	8,372	5,703	1,757	–
Developed	274,265	274,694	271,405	270,469	267,792	262,004	255,212

Pricing

While we use simple futures throughout the report to illustrate the mechanics of our model, the estimated per-share value was derived using a probabilistic model. This model incorporates both futures and options to provide a more comprehensive and accurate valuation.

Futures

We began by identifying futures contracts for oil, natural gas, and liquefied natural gas. Next, we calculated each contract as a percentage of the December 2024 WTI future price. By assuming that movements in the WTI price will proportionally adjust NG and LNG prices, we created a flexible framework. This approach allows us to input any estimated 2024 WTI price and derive NG and LNG futures prices.

Futures	2024A	2025A	2026A	2027A	2028A	2029A	2030A	2031A	2032A	2033A	2034A	2035A	2036A	2037A
Oil	\$68.22	\$66.17	\$64.42	\$63.45	\$62.82	\$62.39	\$62.03	\$61.74	\$61.49	\$61.42	\$61.42	\$61.34		
NG	\$3.36	\$4.11	\$4.31	\$4.32	\$4.23	\$4.16	\$3.96	\$3.88	\$3.77	\$3.64	\$3.68	\$3.36	\$3.31	\$3.24
LNG	\$15.12	\$14.25	\$12.11	\$10.00	\$8.78	\$7.56	\$6.34							

% OIL24	2024A	2025A	2026A	2027A	2028A	2029A	2030A	2031A	2032A	2033A	2034A	2035A	2036A	2037A
Oil	100.0%	97.0%	94.4%	93.0%	92.1%	91.5%	90.9%	90.5%	90.1%	90.0%	90.0%	89.9%	89.9%	89.9%
NG	4.9%	6.0%	6.3%	6.3%	6.2%	6.1%	5.8%	5.7%	5.5%	5.3%	5.4%	4.9%	4.9%	4.7%
LNG	22.2%	20.9%	17.8%	14.7%	12.9%	11.1%	9.3%	9.3%	9.3%	9.3%	9.3%	9.3%	9.3%	9.3%

Options

To assess the likelihood of various prices, we use the WTI December 2025 options market. By taking the deltas for each strike price, we calculate the midpoint and input it into our futures model. These futures flow through the model to generate a corresponding share value. We then multiply each share value by the delta-implied odds of the price being at that strike. Finally, we sum these weighted share values to arrive at an expected per-share value.

Strike	Delta	Range	Midpoint	Share Value	Odds	EV
\$50	79.2%	<\$50	\$50.00	-	20.9%	-
\$55	72.9%	\$50 - \$55	\$52.50	\$4.28	6.3%	\$0.27
\$60	65.0%	\$55 - \$60	\$57.50	\$14.30	7.9%	\$1.13
\$65	55.6%	\$60 - \$65	\$62.50	\$24.31	9.3%	\$2.27
\$70	45.5%	\$65 - \$70	\$67.50	\$34.32	10.2%	\$3.49
\$75	35.4%	\$70 - \$75	\$72.50	\$44.34	10.0%	\$4.45
\$80	26.6%	\$75 - \$80	\$77.50	\$54.35	8.9%	\$4.81
\$85	19.8%	\$80 - \$85	\$82.50	\$64.37	6.8%	\$4.36
\$90	14.9%	\$85 - \$90	\$87.50	\$74.38	4.9%	\$3.66
\$95	11.4%	\$90 - \$95	\$92.50	\$84.39	3.5%	\$2.94
\$100	9.0%	\$95 - \$100	\$97.50	\$94.41	2.4%	\$2.23
\$105	7.4%	\$100 - \$105	\$102.50	\$104.42	1.6%	\$1.70
\$110	6.1%	\$105 - \$110	\$107.50	\$114.43	1.3%	\$1.45
\$115	5.2%	\$110 - \$115	\$112.50	\$124.45	0.9%	\$1.14
\$120	4.4%	\$115 - \$120	\$117.50	\$134.46	0.8%	\$1.04
\$125	3.9%	\$120 - \$125	\$122.50	\$144.47	0.5%	\$0.78
\$130	3.4%	\$125 - \$130	\$127.50	\$154.49	0.5%	\$0.79
\$135	3.0%	\$130 - \$135	\$132.50	\$164.50	0.4%	\$0.66
\$140	2.7%	\$135 - \$140	\$137.50	\$174.51	0.3%	\$0.49
\$145	2.5%	\$140 - \$145	\$142.50	\$184.53	0.3%	\$0.48
\$150	2.2%	\$145 - \$150	\$147.50	\$194.54	0.3%	\$0.51
\$160	1.8%	\$150 - \$160	\$155.00	\$209.56	0.4%	\$0.80
\$175	1.4%	\$160 - \$175	\$167.50	\$234.60	0.4%	\$0.91
\$180	1.3%	\$175 - \$180	\$177.50	\$254.62	0.1%	\$0.31
\$185	1.2%	\$180 - \$185	\$182.50	\$264.64	0.1%	\$0.32
\$190	1.2%	\$185 - \$190	\$187.50	\$274.65	0.0%	\$0.05
\$200	1.0%	\$190 - \$200	\$195.00	\$289.67	1.2%	\$3.36
					100.0%	\$44.39

Revenue

To calculate revenue based on a given set of futures, we multiply each year's December futures prices by the projected production volumes for oil, natural gas, and liquefied natural gas. The revenues from these segments are then summed up to determine the total revenue for each projected year.

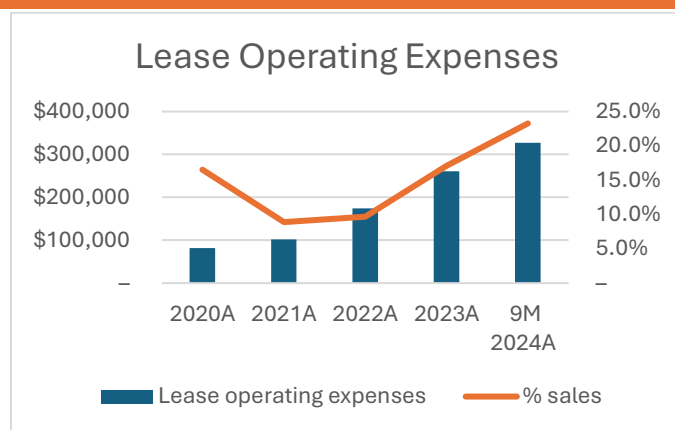
$$revenue = \sum (price_{oil} \times production_{oil}) + (price_{ng} \times production_{ng}) + (price_{lng} \times production_{lng})$$

Costs

With a limited dataset of prior figures, cost projections necessitate some creative adjustments. To develop these estimates, we analyzed straight-line costs for 2023 and 2024, historical averages, and post-2023 trends. In most cases, we believe that straight-lining Q3 values provides a reasonable reflection of Vital Energy's stabilized, post-COVID operations. Leasing and operating expenses, along with DD&A, accounted for the majority of costs, while other categories were largely immaterial.

Lease and Operating Expenses

Historically, E&P companies of this size have shown lease operating expenses (LOE) ranging between 20% and 25% of revenue. Over the past several years, Vital Energy's LOE has steadily increased, reaching 23.3% by Q3 2024. We project this percentage to remain constant going forward, as it reflects the company's current operational structure and aligns with the steady-state levels observed in similar companies over time. This steady LOE level suggests a balance between operational costs and revenue generation, consistent with industry benchmarks.



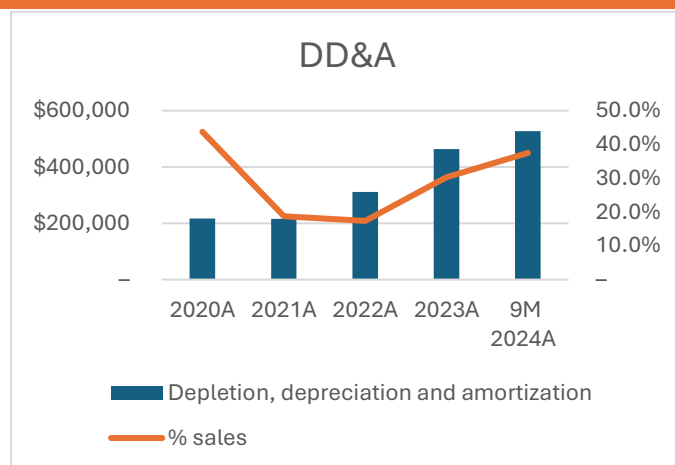
Lease operating expenses	2020A	2021A	2022A	2023A	9M 2024A
Revenue	\$496,355	\$1,147,143	\$1,794,374	\$1,528,633	\$1,406,021
Lease operating expenses	\$82,020	\$101,994	\$173,983	\$261,129	\$327,156
% sales	16.5%	8.9%	9.7%	17.1%	23.3%

Straight-line	Straight-line 2023	Historical Average	Post-2023 Average
23.3%	17.1%	15.1%	20.2%

Depletion, Depreciation, and Amortization

We opted to straight-line the DD&A expense, reflecting our assumption that the firm's structure has evolved significantly over the past few years since COVID. However, this is a metric to monitor closely, as it could decline back to the low-30s, aligning more closely with similar firms.

DD&A expenses are largely driven by resource depletion, which historically accounts for 94% to 96% of the total. With the most recent financials reporting depletion at 94.9%, we have carried this percentage forward throughout our projection period.



DD&A	2020A	2021A	2022A	2023A	9M 2024A
Revenue	\$496,355	\$1,147,143	\$1,794,374	\$1,528,633	\$1,406,021
DD&A	\$217,101	\$215,355	\$311,640	\$463,244	\$527,468
% sales	43.7%	18.8%	17.4%	30.3%	37.5%
Depletion	\$203,492	\$201,691	\$298,259	\$446,611	\$500,438
% Depletion	93.7%	93.7%	95.7%	96.4%	94.9%

Straight-line	Straight-line 2023	Historical Average	Post-2023 Average
37.5%	30.3%	29.5%	33.9%

Remaining Costs

The remaining costs have remained within a narrow range post-COVID. Production and ad valorem taxes, GTP and marketing expenses, general and administrative expenses, and other operating costs have collectively accounted for 13.5% to 16.2% of revenue. Given this stability—fluctuating within just a 2.7% band—we have straight-lined the 9M 2024 values, projecting a combined operating cost of 15.1% of revenue moving forward. This approach reflects a consistent cost structure.

Year	2020A	2021A	2022A	2023A	9M 2024A
Revenue	\$496,355	\$1,147,143	\$1,794,374	\$1,528,633	\$1,406,021
Production and ad valorem taxes	\$33,050	\$68,742	\$110,997	\$93,224	\$84,937
% sales	6.7%	6.0%	6.2%	6.1%	6.0%
GTP and marketing expenses	\$49,927	\$47,916	\$53,692	\$43,297	\$46,543
% sales	10.1%	4.2%	3.0%	2.8%	3.3%
General and administrative	\$50,534	\$62,801	\$68,082	\$104,819	\$74,934
% sales	10.2%	5.5%	3.8%	6.9%	5.3%
Other operating expenses, net	\$7,466	\$6,381	\$8,583	\$6,223	\$5,365
% sales	1.5%	0.6%	0.5%	0.4%	0.4%
Combined % sales	28.4%	16.2%	13.5%	16.2%	15.1%

Cost Overview

While these costs differ significantly from those of one or two years ago, they are likely indicative of Vital Energy's (VTLE) current and future state. Comparing the company to its peers with similar market capitalizations, VTLE's operating margin of 26.3% in Q3 2024 is close to the peer average of 28.2%. This suggests that VTLE's operating efficiency is in line with industry norms.

Ticker	Mcap (m)	Op. Margin
TXO	\$722	(5.0%)
GRNT	\$826	25.4%
VTLE	\$1,280	26.3%
MNR	\$1,610	31.4%
KRP	\$1,550	39.1%
REPX	\$752	50.0%

Costs	2020E	2021E	2022E	2023E	9M 2024A
Lease operating expenses	\$82,020	\$101,994	\$173,983	\$261,129	\$327,156
% sales	16.5%	8.9%	9.7%	17.1%	23.3%
Production and ad valorem taxes	\$33,050	\$68,742	\$110,997	\$93,224	\$84,937
% sales	6.7%	6.0%	6.2%	6.1%	6.0%
GTP and marketing expenses	\$49,927	\$47,916	\$53,692	\$43,297	\$46,543
% sales	10.1%	4.2%	3.0%	2.8%	3.3%
General and administrative	\$50,534	\$62,801	\$68,082	\$104,819	\$74,934
% sales	10.2%	5.5%	3.8%	6.9%	5.3%
DD&A	\$217,101	\$215,355	\$311,640	\$463,244	\$527,468
% sales	43.7%	18.8%	17.4%	30.3%	37.5%
Other operating expenses, net	\$7,466	\$6,381	\$8,583	\$6,223	\$5,365
% sales	1.5%	0.6%	0.5%	0.4%	0.4%
Total Operating Costs	\$440,098	\$503,189	\$726,977	\$971,936	\$1,066,403
% sales	88.7%	43.9%	40.5%	63.6%	75.8%

Working Capital

If Vital Energy were to wind down operations and sell off its remaining resources, we would anticipate a reduction in current assets due to the liquidation of inventories, outweighing any increase in liabilities. As a result, net working capital would likely experience a slight negative change over time. This expectation aligns with the historical average of -3.9% of revenue, a trend we have projected to continue.

NWC	2020A	2021A	2022A	2023A	9M 2024A
Revenue	\$496,355	\$1,147,143	\$1,794,374	\$1,528,633	\$1,406,021
Current Assets	\$136,590	\$235,857	\$245,791	\$370,919	\$419,262
Current Liabilities	\$197,595	\$526,913	\$415,276	\$595,589	\$626,332
NWC	(\$61,005)	(\$291,056)	(\$169,485)	(\$224,670)	(\$207,070)
Change in NWC		(\$230,051)	\$121,571	(\$55,185)	\$17,600
% sales	-	(20.1%)	6.8%	(3.6%)	1.3%

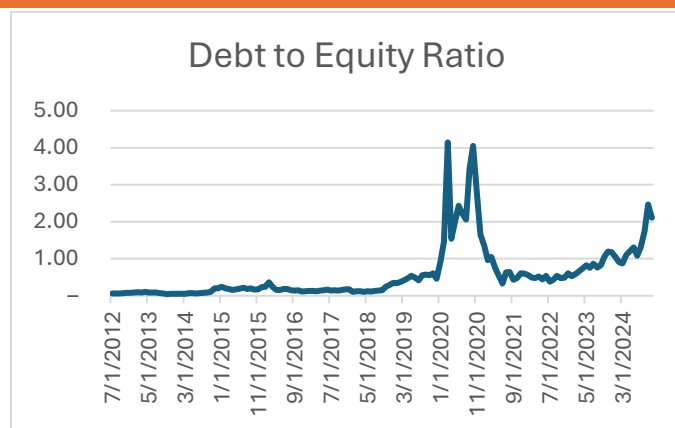
Cash Flow Overview

Using the information above, we calculate unlevered free cash flows with two key adjustments to the standard method. Specifically, we do not adjust for depreciation and amortization (D&A) or maintenance capital expenditures. While these factors are important, we assume they will balance out over time, as their impact is minimal compared to the more significant effects of development capital expenditure and depletion. This simplification reflects their relatively negligible influence on overall cash flow.

UFCF	Q4 2024A	2025E	2026E	2027E	2028E	2029	2030E
EBIT	\$125,206	\$418,728	\$351,990	\$308,998	\$272,710	\$241,348	\$212,541
Tax Rate	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%
Tax Expense	(\$26,293)	(\$87,933)	(\$73,918)	(\$64,889)	(\$57,269)	(\$50,683)	(\$44,634)
EBIAT	\$98,913	\$330,795	\$278,072	\$244,108	\$215,441	\$190,665	\$167,907
Development CapEx	\$100,000	\$566,800	\$335,400	\$398,300	\$271,300	\$83,600	-
Depletion	\$166,813	\$617,010	\$541,017	\$474,936	\$419,161	\$370,957	\$326,680
% DD&A	94.9%	94.9%	94.9%	94.9%	94.9%	94.9%	94.9%
Change in NWC	\$6,017	(\$67,770)	(\$59,424)	(\$52,165)	(\$46,039)	(\$40,745)	(\$35,881)
% sales	1.3%	(3.9%)	(3.9%)	(3.9%)	(3.9%)	(3.9%)	(3.9%)
Discounted UFCF	\$12,422	\$448,775	\$543,113	\$372,910	\$409,341	\$518,766	\$530,469

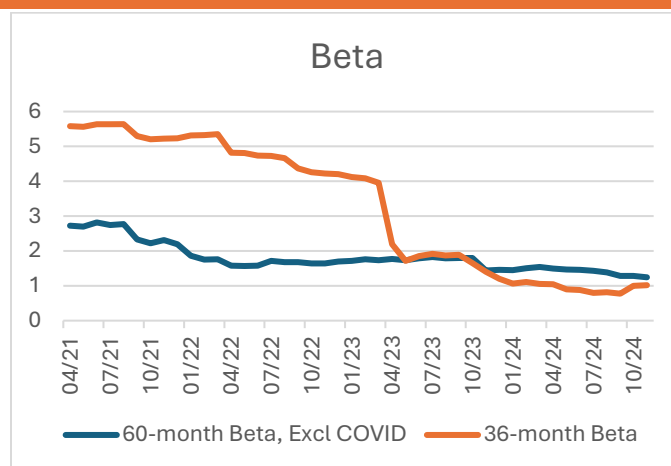
Debt-to-Equity Ratio

While Vital Energy has demonstrated the ability to pay down debt quickly when needed, the company has also expressed interest in acquisitions, even completing one within the past two months. This indicates that while the debt-to-equity ratio could decrease, it is equally likely to rise again. With a debt-to-equity ratio of approximately 2, which is within the normal range for E&P companies, we opted to use the WACC method to calculate the discount rate. This approach balances the company's financial flexibility with industry norms.



Beta

To account for the impact of COVID-19 on the company's beta, we analyzed two separate beta calculations. First, we excluded COVID-era data from a 60-month rolling beta, resulting in a relatively stable range of ~1 to ~2. To validate this, we also reviewed a 36-month rolling beta, which yielded a similar result of approximately ~1. Based on these findings, we opted to use the more standard 60-month rolling beta of 1.24 in our WACC calculation. This approach ensures that our WACC calculation reflects both historical stability and current market dynamics, avoiding distortions from anomalous COVID-era data.



Cost of Debt

To determine the cost of debt, we employed several methods to ensure a balanced approach. These included standard calculations such as the after-tax yield to maturity (YTM), the after-tax interest expense as a percentage of debt from Q3, and data from the 2023 annual report. Additionally, we incorporated a less common recovery-based cost of debt, which considers the company's ability to repay its obligations. Each method has its strengths and weaknesses, so we chose to weigh them equally, resulting in an average cost of debt of 5.9%.

recovery based cost of debt

$$= (1 + \text{promised yield}) \times (1 - (\text{probability of default} \times (1 - \text{recovery rate}))) - 1$$

Remaining Valuation Variables

The remaining inputs for our WACC calculation were derived from standard sources:

- **Risk-Free Rate:** The current 10-year Treasury yield.³
- **Risk Premium:** Data sourced from Damodaran's equity risk premium estimates.⁴
- **Debt, Shares, Tax Rate:** Figures obtained from the company's historical financial documents.

³ [Market Yield on U.S. Treasury Securities at 10-Year Constant Maturity, Quoted on an Investment Basis \(DGS10\) | FRED | St. Louis Fed](#)

⁴ pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/ctryprem.html

Conclusion

In conclusion, our valuation reflects a comprehensive analysis of Vital Energy's financial and operational metrics. Using a risk-free rate of 4.4%, a beta of 1.24, and a risk premium of 4.6%, we calculated a cost of equity at 10.1%. The cost of debt, averaged across multiple methodologies, was determined to be 5.9%, aligning with the company's recovery-based and after-tax yield metrics. With a weighted average cost of capital (WACC) of 6.5%, our analysis implies a share value of \$44.36, representing a 34.9% premium to the current market price of \$32.88.

		Valuation			
Risk Free Rate	4.4%	Date	12/2/2024	Promised Yield	7.9%
Beta	1.24			Probability of Default	16.7%
Risk Premium	4.6%			Recovery Rate	90.0%
Cost of Equity	10.1%				
Cost of Debt	5.9%	Net Debt	\$2,411,079	Recovery based	6.1%
Debt	\$2,433,271	S/O	38,153	After-tax YTM	6.2%
Equity	\$1,215,000	Implied Share Value	\$44.36	Q3 Interest % debt	4.0%
Tax Rate	21.0%	Current Share Value	\$32.88	2023 Interest % debt	7.4%
WACC	6.5%	Discount	34.9%	Average	5.9%

What the Market is Missing

1. The market does not appear to be factoring in the options market or the non-linear relationship between oil prices and the company's value.
2. Additionally, the market seems to be overlooking the impact of Vital Energy's recent acquisition. Since reserves are only updated in annual 10-K filings, market participants seem to be valuing the company based on reserve figures that are nearly 11 months old.

When these two aspects are excluded from the valuation, we calculate a share value of \$32.72, which is only about 1% below the current market price of \$32.88.

Other References

Unless otherwise noted, all figures and data are taken or derived from the company's financial documents or FactSet.

[SEC Filings | Vital Energy](#)

[FactSet | Leading Financial Data, Market Analysis & Insights](#)