



Pioneer Natural Resources

With a lucrative year for energy ending, Pioneer is still on track to overperform the market in 2023.

Company Overview:

Founded in 1997, Pioneer Natural Resources has become a leader in independent oil and gas exploration and production. Headquartered in Irving, Texas and operating in the Permian Basin, Pioneer, produces crude oil, natural gas liquids, and natural gas products from 980,000 net acres in the Midland Basin.

Investment Thesis:

We issue a HOLD rating for Pioneer Natural Resources. Forecasted strong end of year and 2023 performance will continue their robust position in the Permian Basin.

Catalysts:

Strong Valuation with Modest Growth

- While forecasted growth expected to be lower than historically, Pioneer's deep reserve inventory will allow them to remain stable coming off a hot 2022
- Reserve quantity strength will allow for future production while avoiding unnecessary expenditures

Leader in Shareholder Returns

- With Pioneer's introduction of the variable dividend in 2021, prosperous total returns are ahead with a 9.98% expected dividend yield in 2022.

Efficient Budget

- Capex growth expected at around 5% for the near future maintaining strong FCF metrics
- Pioneer has been focused on keeping their operations lean with a long-term growth strategy

Investment Risks:

- Commodity price fluctuations will affect Pioneer's revenue
- Demand for oil and gas falls faster than anticipated ensuing lower than expected production
- Energy sector prone to large drawdowns and volatility
- Uncertainty on the future of fossil fuels given the energy transition initiatives being enacted

Hold

PXD US

Price: \$256

Target Price: \$250-256

Analysts:

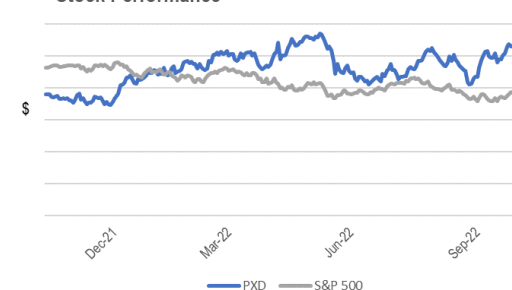
Connor Umbright

(630) 251-1096

Gabriel Miller

(515) 783-3259

Stock Performance



	YTD	1m	3m	12m
PXD	52.83	19.6	16.51	49.32
S&P 500	-17.09	5.02	-3.8	-13.8

Company Data

Price (\$)	256.56
52-week Range (\$)	166.97-288.46
Market Cap (\$mm)	61,411
Enterprise Value (\$mm)	66,659
Fiscal Year End	31-Dec
Shares Out (mm)	238

Key Ratios FYE 22E

P/E	9.14x
EPS	\$25.03
Div. Yield	9.89%
EV/EBITDAX	7.35x
ROA	16.3%
ROE	9.00%
Debt/Equity	0.13%
Current Ratio	1.14x

Important Disclaimer

This report was created by students enrolled in the Security Analysis (6F:112) class at the University of Iowa. The report was originally created to offer an internal investment recommendation for the University of Iowa Krause Fund and its advisory board. The report also provides potential employers and other interested parties an example of the students' skills, knowledge and abilities. Members of the Krause Fund are not registered investment advisors, brokers or officially licensed financial professionals. The investment advice contained in this report does not represent an offer or solicitation to buy or sell any of the securities mentioned. Unless otherwise noted, facts and figures included in this report are from publicly available sources. This report is not a complete compilation of data, and its accuracy is not guaranteed. From time to time, the University of Iowa, its faculty, staff, students, or the Krause Fund may hold a financial interest in the companies mentioned in this report.

Economic Analysis

Supply and Demand

Supply and demand are the single biggest economic influences in the energy sector as it typically has remarkably high volatility during cycles of high and low demand. Oil prices are dictated at an international level and gas prices by regional parties. With the industry still feeling the effects of the COVID-19 Pandemic it is still in a recovery phase as production begins to rise again. During the pandemic oil consumption and prices fell greatly. After countries started to “reopen” this created a massive price increase with prices reaching levels they haven’t seen since 2014. With the economy in the wake of recession, prices have since leveled off but remain high. The supply and demand of oil is impacted largely by OPEC which controlled 80.4% of proven oil reserves in the world in 2021⁷. In their most recent report OPEC forecasted oil demand to increase by 2.55 million barrels per day, or 2.6%⁸. This is expected as countries are opening, increasing the use of products that require oil. On the supply side, IEA estimates oil production levels to be above consumption in 2022. We expect this to trigger declining prices in crude oil and have already seen that in the current year.

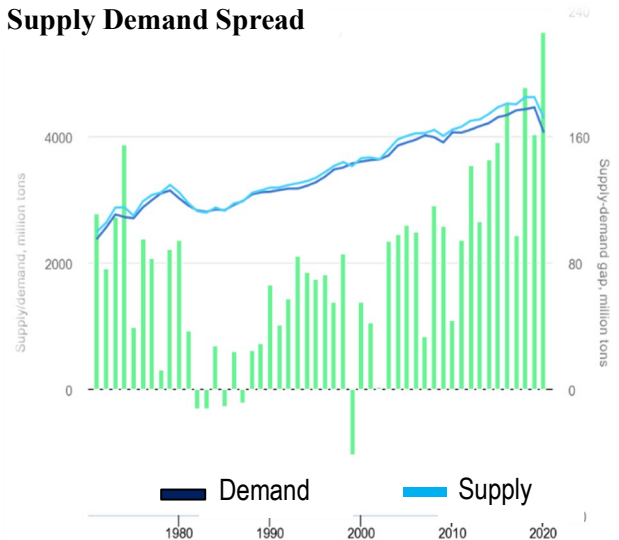
Other factors that impact the supply and demand include geopolitics, environmental pressure, rules, and regulations. The Russia-Ukraine conflict is an example of how geopolitics influences the commodities market. Russia produces the third highest amount of oil per day, accounting for 11% of the world’s total oil production¹². With countries putting bans on Russian oil imports the price of crude oil was increased 15% one week after Russia invaded Ukraine. Since then, the conflict has waned but still is a major issue. However, the market has adjusted for the conflict and prices followed.

Crude Oil Price Series



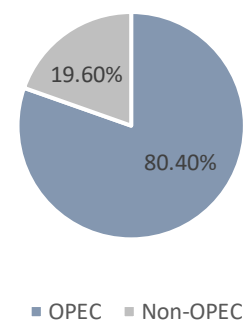
Source: Trading Economics⁶

Supply Demand Spread



Source: IEA.org⁹

OPEC Share of World Crude Oil



Source: OPEC.org⁸

Natural gas and natural gas liquids are the other two products that provide oil and gas revenue for Pioneer's. These products are less influenced by global supply and priced locally or regionally. This is due to many factors but the difficulty natural gas and NGL's face with transportation¹³. It is challenging and costly to transport both these products resulting in local or regional prices. For gas that is transported by pipeline (which accounts for around 55% of total trade¹³) prices are set similarly to that of the crude oil market. The remaining factors that affect the price of natural gases include weather, natural gas production, level of natural gas in storage, availability of other fuels, and economic growth¹⁴. Provided by CME Group natural gas prices are forecasted to steadily decline from \$6.60 in January 2023 to a low of \$4.77 in May, 2023¹⁵. After this, prices slightly increase and decrease, remaining stagnant. This coincides with our model as we expect Pioneer's revenue to decrease in 2023.

Pioneer is heavily sensitive to the fluctuations in the commodities market and the market is volatile. This causes their revenue to vary with shifts of the market. Although Pioneer is dependent on the commodities market, we still expect solid growth throughout 2022 as demand is forecasted to increase and prices remain high. For future years we forecasted revenue growth to be slightly negative, -13% in 2023, and -4% in 2024. This is not alarming as the market continues to level off. Pioneer will still come out ahead, reaping the benefits of 2021 and 2022.

Interest Rates

Interest rates play a pivotal role in a company's willingness to make acquisitions, increase capital expenditures, and receive debt issuances. The energy industry is reliant on capital expenditures to extract oil or natural gas and find new sources of energy. When interest rates increase the cost of borrowing follows making it more expensive and difficult for companies to make new investments, acquisitions, and develop existing

assets. The accessibility to capital also decreases causing capital expenditures to fall. Capital expenditures are the heart of the energy industry, starting with the upstream segment of the sector. Upstream focuses on the exploration of new drilling locations and the production of natural energy resources. The other two segments, midstream and downstream, will suffer if upstream is not able to allocate capital for exploration and production. We used the 10-year government note rate in our WACC calculation which currently sits at 4.10%¹. This rate is used because Pioneer's uses long-term debt for most leases involving drilling equipment, oilfield development, transportation projects, and other long-term projects. We do not expect Pioneer to face significantly higher borrowing costs as the 10-year treasury yield should see some slight decline in the future but nothing that will impact Pioneer. Pioneer's capital structure is less levered in comparison to peers making interest rate changes more significant to their competitors.

10-Year Treasury Curve



Source: *macro trends.net*²²

Government Regulations

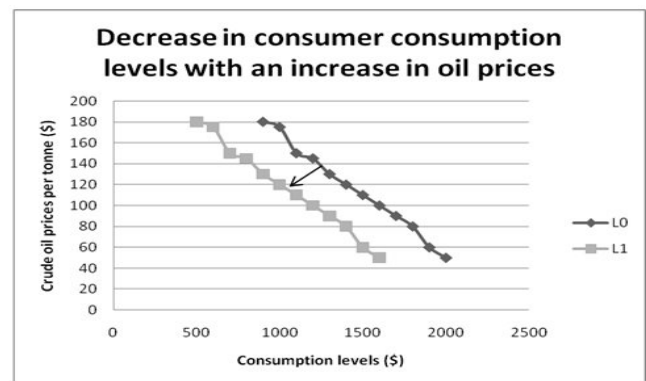
Government regulation plays a crucial role in how much control the energy sector can have over consumers. With an increasing amount of government policy regarding the energy sector, the market fluctuates more than before with the

implementation of new policies. In recent years there is a strong push for sustainable energy and the effort to phase out non-renewable energy is a tightrope. The volatility of yearly policy changes and regulations have a distinct effect on the way this sector can succeed, whichever political party is in control. President Biden has a goal of cutting domestic emissions in half by 2030 and to achieve zero net emissions by 2050. He started by putting a hold on new oil and gas leases on federal land after being elected but this was omitted by a federal judge shortly afterwards. The Biden Administration did increase the royalty rate for new leases on federal land from 12.5% to 18.75%. Oil companies now pay 18.75% of revenues to the government when drilling on federal land or water. This marks the first increase to royalties for the federal government since imposed in the 1920s¹⁷. This imposes a new difficulty to produce oil. Biden also deployed \$40 billion in loan capacity to the Department of Energy. The \$40 billion was previously allocated to the Department of Energy as part of the 2009 stimulus package but is now available for their loan program office to loan for qualified projects. This is available for applicants' seeking capital for innovative fossil energy projects, nuclear energy projects, or renewable energy projects¹⁸. These small steps present threats for oil companies as it is clear the country is moving towards more ways of producing clean energy. The increase in royalties on federal land doesn't have an impact on Pioneer directly as they have no exposure to federal land. We did not factor into our model new regulations, but it is implied in the price decline of crude oil. We believe no new regulations will drastically change the course of Pioneer's performance in the coming years.

Real GDP

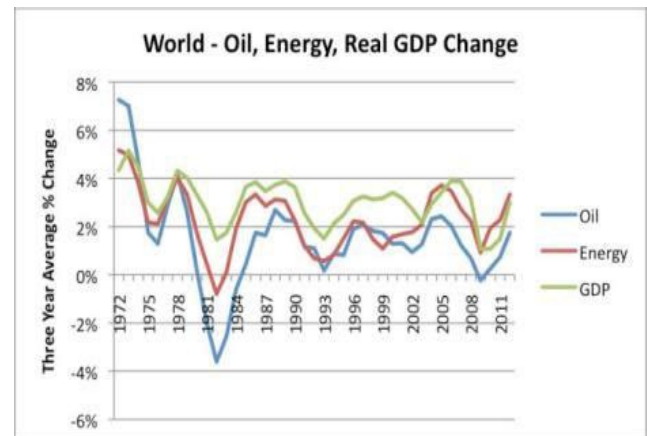
Real worldwide GDP correlates with crude oil prices, increasing in times of growth and decreasing in times of recession. Global GDP is an inflation-adjusted metric used to measure the

total value of goods and services provided by the world. Consumer spending forms the largest part of GDP in most nations. When oil prices rise, consumer spending reduces along with GDP.



Source: ivypanda¹⁹

The correlation between global GDP and oil prices is a result of the dependance on oil for energy around the world. As shown by the graph, when the global GDP is increasing the reliance on energy and oil increases as well.



Source: oilprice.com¹⁸

Positive global GDP growth increases demand and increases revenue for oil companies. Due to the COVID-19 Pandemic, real global GDP fell to 3.1% in 2020 then increased 5.9% in 2021 as the world was recovering. Once countries started to open again, consumer spending increased as people had been saving for months. We forecasted real global GDP with slower growth at 3.5% in 2022 and 2.9% in 2023. Our forecast is comparable to the real global GDP growth

(3.8%) throughout 2022. This slowed growth is due to high inflation and decreased consumer spending in comparison to 2021 and early 2022.

Industry Analysis

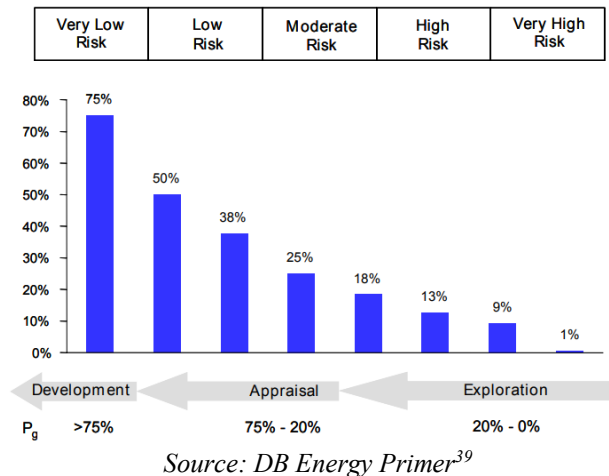
Energy at a Glance

The energy sector is divided into three main components: upstream, midstream, and downstream. Pioneer falls into the upstream component of the supply chain as they are responsible for the exploration and production of oil and gas. Midstream companies are responsible for the transportation, storage, and processing of the raw materials from the upstream and delivering it to downstream companies. Downstream companies then refine the resources into various products to serve different applications such as gasoline, jet fuel, and asphalt. Integrated oil and gas operate under all components and benefit from vertical integration of the entire supply chain.

Upstream Exploration & Production

At the top of the supply chain E&P companies are the driving force of the energy sector. Companies like Pioneer are involved in the search and extraction of the oil and gas that run our economy. However, E&P companies are also engaged in one of the most risky and intensive process out of the three supply chain components. Exploration risk is at the forefront as it is capital intensive and has very low success rates. While technology has improved using seismic surveillance to locate underground wells, the success rate of finding a prospective reserve is less than 20%.³⁹ If an exploration company does indeed find a reserve underground, materiality then becomes an issue. 89% of successful exploration wells have found fields of 100MMBOE of oil or less and only 2% have found 500 MMBOE or greater.³⁹ The chances of

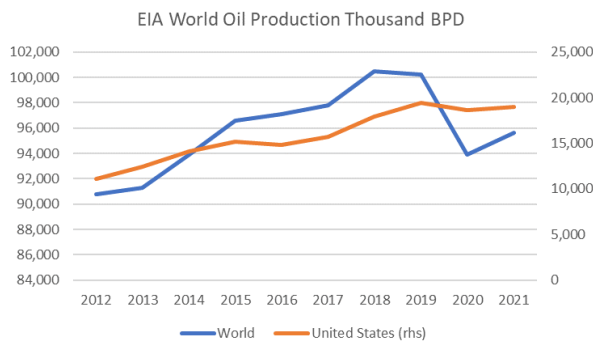
finding a substantial reserve are a miniscule 0.4%. If proven reserves are found, risk is mitigated and is now measured by the capital expenditures required to drill a new well as land rigs average at \$20mm and offshore rigs at upwards of \$200mm³⁹



Given this level of risk, exploration and production companies earn the highest gross margin out of the three supply chain segments. Sampling the eight largest companies from upstream, midstream, and downstream by market cap, gross margins are 35%, 31%, and 8% respectively. While the risk involved in upstream energy can be high, the rewards of finding the reserves are equally as high.

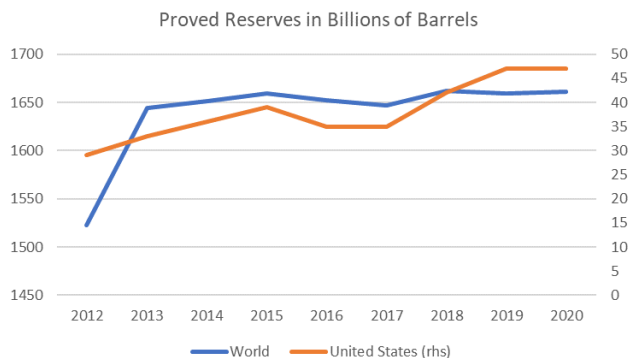
Production Outlook

Production, proved reserves, and rig growth over a 10-year period has experienced low growth. However, considering 2020 and the effect COVID-19 had on the energy industry, growth variables are higher. The United States has experienced larger growth in production compared to the world with a 10-year CAGR of 6% and a world production CAGR of 0.5%. Taking out the effects of 2020, growth rates of the US and world are 8% and 1% respectively.



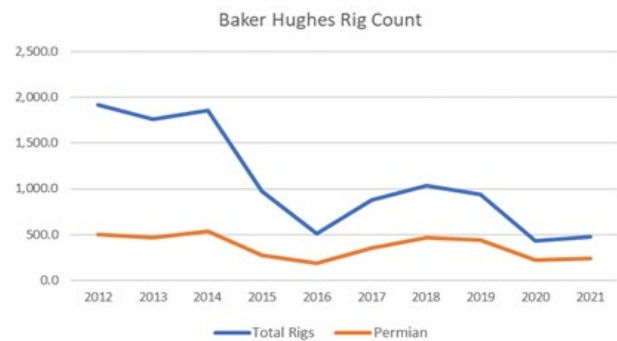
Source: FactSet¹

Proved Reserve quantities have remained flat for the last decade indicating lower amounts of exploration expenditures for adding additional proved quantities to a company's inventory. Companies are more reliant on current reserve quantities rather than engaging in large explorations to find more reserves. World proved reserves have grown by a 1% CAGR and US reserves by 6%.



Source: FactSet¹

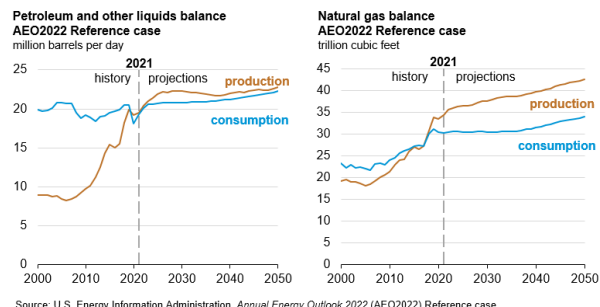
The Baker Hughes rig count can be an effective indicator for the willingness to employ wells and increase production. Rig count declines can be caused by a multitude of factors, but growth in rigs usually indicates economic health, indicating upstream companies are halting growth in rigs and waiting to grow in more sustainable economic conditions.³⁸ Interestingly, we have seen a sharp decline in US rig counts, but the Permian has remained steady over the past 10 years. In the United States rig counts have dropped 304% while Permian rig reduction has been lower, decreasing 108%.



Source: FactSet¹

Future of Oil and Gas

With a worldwide effort to phase out fossil fuels, there are questions about the longevity of upstream oil and gas companies. We remain optimistic on the future of oil and gas and believe a substantial transition from fossil fuels is long away. While growth will not mimic the past, we still expect to see modest production growth of oil and natural gas products. EIA projects petroleum and other oil-based products to grow by 17% from 2021 to 2050 and natural gas by 25%. Consumption growth is expected to lag production growth; however, it remains above current levels.



Source: U.S. Energy Information Administration, Annual Energy Outlook 2022 (AEO2022) Reference case

Source: EIA²³

Competitive Advantages

E&P companies can find advantages over their peers by the ability to succeed during different price environments. Given the price volatility of oil and gas, a company that has the smallest drawdown during low price environments and high upside during high price environments will reap advantages over industry peers. Companies can achieve this by creating a complete portfolio

that consists of three different strategies: protect, sustain, and scale.²⁴ During low price environments the ability to reduce capital expenditures while not significantly reducing production. In extended periods of low pricing a company with shale projects that have low breakeven points per bbl. through operational efficiency will make them margin leaders among peers. When prices rise, oil companies need to take advantage by having the ability to scale production at low costs and exploit high price environments.²⁴ A company with the ability to navigate in all three environments through a complete portfolio of different projects and shale plays will hold sustainable competitive advantages over peers.²⁴

Porter's Five Forces Analysis

Industry Competition: High

Competition among companies is very high as the companies compete to provide the same resources. Independents like Pioneer face challenges of competing next to integrated conglomerates like Chevron and Exxon, and integrated companies face challenges by competing against national oil. Gaining access to deposits, having the capital to grow, and obtaining land rights are all factors resulting in competitive rivalries.

Threat of New Entrants: Low

There have been 194 new entrants to upstream oil and gas since 2010. Since 2019 there have only been 19 total entrants. While new companies have been entering the industry, their average revenues are \$291 million, an unsubstantial amount compared to independents and integrated energy companies. High barriers of entry include the high amount of capital, ability to gain lease contracts, finding adequate reserves, building supplier relationships and the regulation of the industry.

Power of Suppliers: High

Based on the supply and demand dynamics in a particular market cycle, upstream oil and gas have the ultimate authority to control the level of production they supply. Midstream and downstream energy consumers are reliant on the supply that upstream E&Ps choose to produce.³⁷

Power of Customers: Low

Customers are left with minimal power, as the prices and supply are heavily reliant on oil and gas producers along with nations. Oil and gas companies can limit their production to keep prices at a level they desire without violating regulatory requirements. Also given the current inelasticity of the demand for these products, customers are left with little power over the products they consume.³⁷

Threat of Substitute Products: HIGH

Oil and Gas E&P companies face a serious threat of alternatives to oil and gas. Large efforts have been made to reduce the amount of fossil fuels used to run our planet. Renewable energy is on the rise as solar and wind generation is predicted to power 60% of the world's electricity by 2035²⁵ and electric vehicles are expected to make up 10%²⁶ of light duty vehicles in 2030. While full adoption of renewable energy generation is decades away, E&P companies do face an existential threat of substitutes.

Competitive Landscape

The Permian; because of its rich reserve quantities, is home to many exploration and production companies and forces intense competition among territory rivals. While hundreds of public and private companies operate in the Permian, less than 10 make up 50% of the basin's production and five companies control the bulk of acreage.³⁶ Independents like Pioneer face large challenges by operating against other independents and conglomerate integrated companies like ConocoPhillips Occidental Petroleum. We look at eleven comparable companies that operate in

the Permian for competitive analysis. Note that financial relative valuation will be in the appendix.

EOG Resources (EOG): Develops, produces, and markets crude oil, NGLs and natural gas in major US basins and internationally

Occidental Petroleum (OXY): Integrated energy company with operations in the US, Middle East, and North Africa. Specializing in oil, gas, and chemical products

Diamondback Energy (FANG): Independent oil and gas company focused on unconventional, onshore oil, and gas reserves in the Permian Basin

Devon Energy (DVN): Independent oil and gas exploration, development, and production company with operations onshore operations in the Permian

Continental Resources (CLR): Top independent exploration company with operations in the North, South and East regions of the United States

Marathon Oil (MRO): Independent exploration and production company that has partial operations in the Eagle Ford territory of the Permian. MRO serves customers internationally

Chesapeake Energy (CHK): Produces oil and natural gas through conventional and unconventional reserves onshore in the Permian

Hess Corporation (HES): Global independent managing operations around the world.

Coterra Energy (CTRA): Partial operations in the Permian developing oil and natural gas with a focus on ESG strategy

EQT Corporation (EQT): Integrated energy company with emphasis in the Appalachian area. EQT and its subsidiaries offer natural gas products to wholesale and retail customers

ConocoPhillips (COP): Independent E&P located in Texas with operations in 14 countries producing, exploring, transporting, and marketing oil, NGLs, and natural gas

Ticker	Total Acreage (gross)	Proved Reserves (MMboe)
EOG	11,071,000	3,747
OXY	25,249,000	3,512
FANG	524,700	1,788
DVN	4,279,000	1,625
CLR	2,949,490	1,645
MRO	1,584,000	1,106
CHK	3,796,000	1,596
HES	32,494,000	1,309
CTRA	7,347,737	2,892
EQT	1,992,892	4,160
COP	50,989,000	6,101
PXD	1,113,548	2,222

Source: FactSet¹

Ticker	Daily Production (Mboe)	Total Wells
EOG	828	13,790
OXY	1,183	26,431
FANG	375	11,744
DVN	571	13,432
CLR	329	8,712
MRO	348	6,948
CHK	462	8,200
HES	315	4,169
CTRA	457	8,361
EQT	848	4,527
COP	1,527	30,052
PXD	617	10,782

Source: FactSet¹

Ticker	OPEX per Unit	Gross Margins
EOG	\$10.10	45%
OXY	\$10.30	29%
FANG	\$4.10	62%
DVN	\$4.10	38%
CLR	\$3.40	48%
MRO	\$11.60	38%
CHK	\$2.00	33%
HES	\$12.70	34%
CTRA	\$1.00	56%
EQT	\$7.70	43%
COP	\$12.90	32%
PXD	\$5.60	38%

Source: FactSet¹

Company Analysis

Company Overview

Pioneer Natural Resources operates as an independent oil and gas exploration and production company. The company produces oil, natural gas liquids, gas and are engaged in hydrocarbon exploration. The company is headquartered in Irving, Texas, and is the largest producer within the Permian Basin. After the sale of assets in the Delaware Basin, Pioneer is located entirely in the Midland Basin, within the Permian Basin, and holds the largest acreage in the Spraberry/Wolfcamp field which covers a vast area in the southern portion of the region. The Permian Basin is now the most productive oil field in the United States. They produce West Texas Intermediate Sweet in the Midland Basin and produce casinghead gas. The oil and gas are primarily from the Spraberry, Jo Mill, Dean, Wolfcamp, Strawn, and the Atoka.

Proved Reserves:

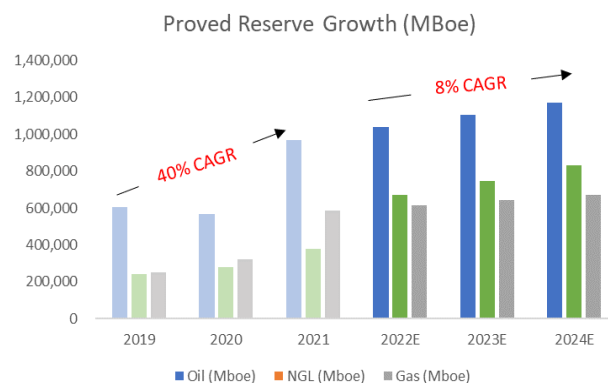
Pioneers' growth of proved reserves has been increasing over the past 10 years, most notably in oil reserves. Oil, NGL, and gas reserves have a CAGR of 7.93%, 12.47%, and 5.33% respectively. Pioneer has been able to successfully grow producing wells through their large acreage holdings in the Permian.



Source: PXD 10K 2012-2021⁴¹

We project future reserve growth to be driven by discoveries in existing acreage, through improved techniques and technology due to

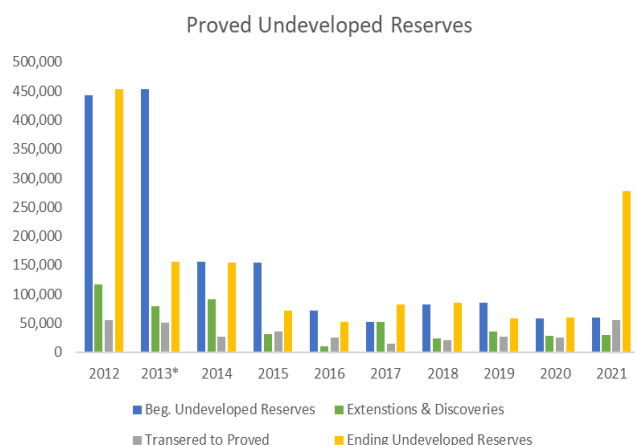
horizontal drilling methods and new discoveries in proved territories.³⁰ Pioneers' depth of acreage and the ability to spud new wells is why we do expect growth of proved reserves over the next 10 years at a CAGR of ~5% along with where management expects growth at (Bloomberg). We do expect YoY growth to slow to around 3% in 2031 and continue at a long-term growth rate of about 2.5%. While future reserve growth will not resemble the past, we are optimistic that Pioneer will meet these growth estimates.



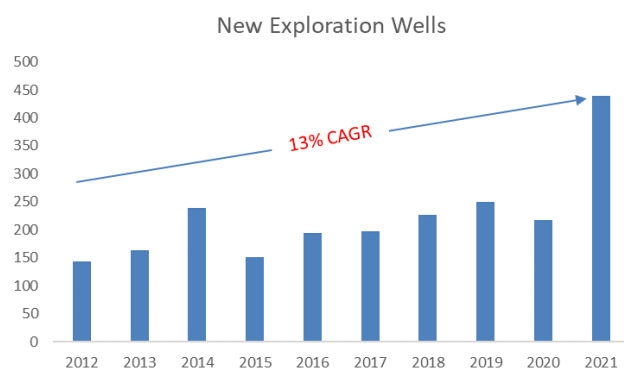
Source: PXD 10K, Krause Valuation⁴¹

Proved Undeveloped Reserves

We factor in Pioneers undeveloped reserves as a catalyst for proved reserve growth. While undeveloped reserves have remained at low levels over the past several years, Pioneer is still able to generate high growth of their proved reserves. Their ability to utilize their extensions and discoveries of these reserves and feed it into proved inventory is notable averaging above 100% of extension quantity transferred to proven quantities. For developing the reserves, Pioneer has continued to achieve multiple new well completion projects. During the nine months ended September 30, 2022, they completed 324 horizontal wells and 75 horizontal wells. Over the last 10 years they have been steadily adding new exploratory vertical and horizontal wells. Horizontal wells help drain more of a reserve, increase well area, and help obtain resources from hard-to-reach areas vastly increasing the yield of a particular reserve.³¹



Source: FactSet¹

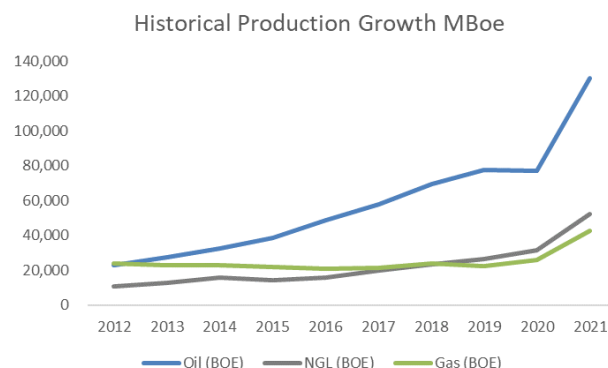


Source: Bloomberg Terminal⁴⁰

Production

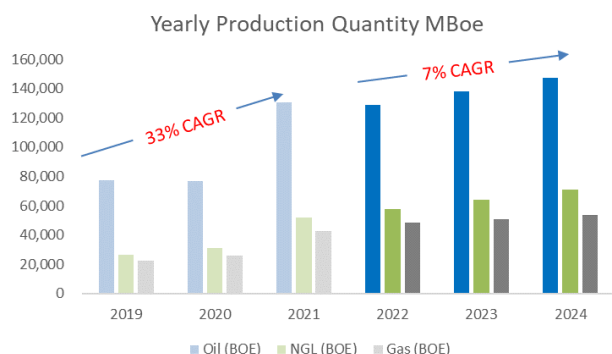
Pioneers' ability to grow production along with growing reserves has been impressive. Production over the past 10 years has had a compound annual growth rate above 16% across all three products. We like to observe the production/proved reserve ratio to quantify their depth of inventory and to estimate future production. Production never exceeded proved reserves by 17% and average at 10%. As production has been rising, they have resisted eating away too much of their reserve quantities and having to risk exploring for new oil and gas to meet production expectations. This allows for the flexibility of drilling new wells and executing on undeveloped reserves without it being a need to survive YoY. Historical growth has mirrored the growth we have observed in

reserve quantities and has seen double digit YoY growth in 8 out of the last 10 years.



Source: PXD 10K 2012-2021⁴¹

Based off historical production metrics from Pioneer and the current trajectory for production in the industry, we estimate that Pioneer will still show growth in production over the forecast period. Production will grow similarly to the reserve growth albeit at a slightly lower rate. While we believe production will not mimic past growth, Pioneer will be inclined to produce more as commodity price fluctuations occur in the future. Pioneer has stated that they want to keep oil production flat during 2022 while prices remain high to maximize their inventory and sustain greater margins.³² While oil production will remain flat, we see NGL, and gas production keep growing. Keeping production low during this current price environment will allow Pioneer to conserve inventory for times when prices fall, and production will need to be greater(S&P). Our fiscal year 2022 estimate projects growth in production across oil, NGL, and gas to be -1%, 10%, and 13% respectively. Total production will sit at 4% YoY in 2022 producing 235,044 MBOE.



Source: PXD 10K, Krause Valuation⁴¹

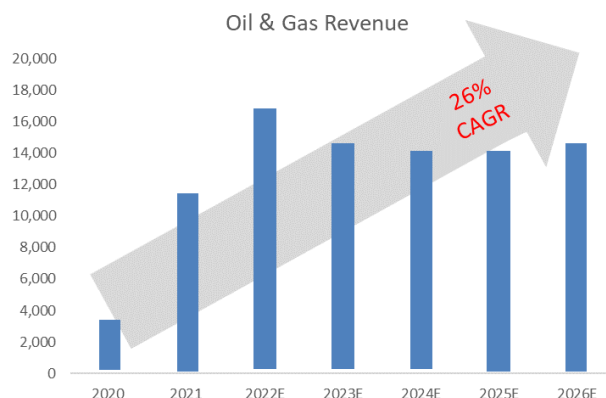
Oil and Gas Revenue

While revenues are driven by level of production, upstream energy companies must be cautious of how much they can produce. Oil and gas products cannot be artificially made and are becoming increasingly more difficult to locate and very costly. Given the nature of the products they sell, they cannot produce any amount when prices of commodities drop. Commodity prices therefore are a leading indicator of how much revenue an energy company can earn in a given fiscal year. Unfortunately, Pioneer does not set their own prices and is subject to global commodity spot and futures pricing given current market conditions. These commodity prices are volatile and prove difficult for analysts and even industry experts to predict.

Macroeconomic headwinds starting in 2022 with the Russian-Ukraine war have sent prices of commodities soaring with WTI crude oil hitting \$119 bbl., in March and Henry Hub natural gas price reaching \$9.71MMBtu or \$1.65 BOE.³⁴

While global conflict has been hurting economies around the world, Pioneer has been able to successfully exploit the rise of commodity prices and earn abnormal profits. Along with the increase in production capacity, we forecast FY2022 oil and gas revenue to be around \$17mm, a 47% YoY growth. While management believes that oil prices will remain high and rebound to \$120 bbl. in 2023,³⁴ our estimates are more conservative and based on estimates of WTI NYMEX futures pricing we

see the average price of oil reaching around \$80 bbl. in 2023. Because of this, we project FY2023 oil and gas revenues to sit around \$14mm, about a 13% decline. However, even with forecasted revenues falling, we believe that production increases will sustain a growing revenue base over the next 10 years.

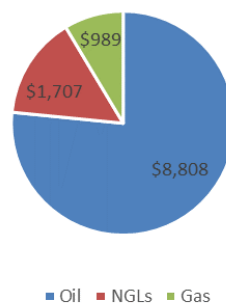


Source: PXD 10K, Krause Valuation⁴¹

Revenue Decomposition & Financial Outlook

Pioneer has a straightforward revenue decomposition. PXD produces revenue through three main products: oil, NGL, and gas. These products are produced and sold solely in the United States. They generated revenue of \$11.5 billion in 2021, an increase of 217% from the prior year. They also accounted for 64% of total revenue for the year. The graph below illustrates total revenue between the three products

2021 Segmented Revenue (mm)



Source: 2021 Pioneer 10K⁴¹

A large portion of revenues also come in the form of sales of commodities that were purchased. Sales of purchased commodities accounted for 35% of total revenue and PXD is expected to increase this segment in the future. Sales of purchased commodities are pipeline capacity commitments to secure oil, NGL's, and gas transportation capacity from the Company's area of production and secure diesel supply from the Gulf Coast to the Company's operations in the Midland Basin. PXD enters purchase agreements with Gulf.

Coast refineries, Gulf Coast and West Coast gas markets, and international oil markets are used to satisfy unused gas pipeline capacity commitments and diversify a portion of their sales. PXD's major customers are Sunoco Logistics Partners L.P., Shell Trading US Company, Occidental Energy Marketing Inc., and Plains Marketing L.P. Occidental Energy Marketing Inc was the largest purchaser of commodities from PXD accounting for 27% of Pioneer's sales of purchased commodities.

Pioneer utilizes derivative contracts to mitigate the effect of price volatility on the commodities they sell and consume. This does reduce the effect of price volatility but limits potential gains if prices rise. The company also uses marketing derivatives to diversify its oil pricing to the Gulf Coast and international markets. Commodity price derivatives include the use of swap contracts, collar contracts with short puts, option-based contracts, and basis swap contracts.

We expect PXD to have continued growth in 2022 but at a lesser rate. With growth from oil, NGL's, and gas slowing down as prices begin to stabilize. As described above, OPEC cut forecasts for oil demand for the fifth time since April and we expect revenue growth to decrease. However, we still expect a 47% increase in oil and gas revenue for 2022. Prices are stabilizing but remain high and with demand expected to rise by 2.24 million barrels per day next year,

PXD is expected to have continued success in 2022.

Expenses

Pioneer has four operational expenses that make up more than 75% of total expenses.

Production Expense:

Direct production expense includes operating wells, feedstocks/raw materials, power to run operations, labor, and royalties/patents/licensing. Production costs include variable and fixed components and thus may or may not decrease as production increases. Pioneer's production costs average 20% of oil and gas revenue; however, over time this percentage has decreased from 23% in 2012 to 11% in 2021.

Production and Ad Valorem Taxes:

Ad valorem "according to value" is a tax on real property based on fair value. Mineral interests are considered real property and thus are subject to taxation based on fair market value.²⁷ In Texas these taxes are imposed only on producing companies and imposed once per year. These taxes vary from counties and can vary based on location of operations.²⁸ Ad valorem taxes are not part of Pioneer's income tax. Historically, Pioneer's ad valorem tax has been 7% of oil and gas revenues.

Depreciation, depletion, and amortization:

This is one of the largest expenses that is incurred in a fiscal year and is only expensed for assets that are associated with productive wells and non-productive development wells. These are depreciated using the units-of-production method based on the capitalized assets estimated by Pioneer's geological engineers. The historical average depreciation rate has been 11.47% of beginning net assets and has been 38% percent of oil and gas revenue.

Sales of purchased commodities

These are pipeline capacity commitments to secure oil, NGL's, and gas transportation capacity from the company's area of production and secure diesel supply from the Gulf Coast to the Company's operations in the Midland Basin. PXD enters purchase agreements with Gulf Coast refineries, Gulf Coast and West Coast gas markets, and international oil markets to satisfy unused gas pipeline capacity commitments and to diversify a portion of their sales. While these expenses make up more than 90% of oil and gas revenues, they are offset by the revenue generated from these commitments and has minimal effect on the operating margins.

Capital Structure:

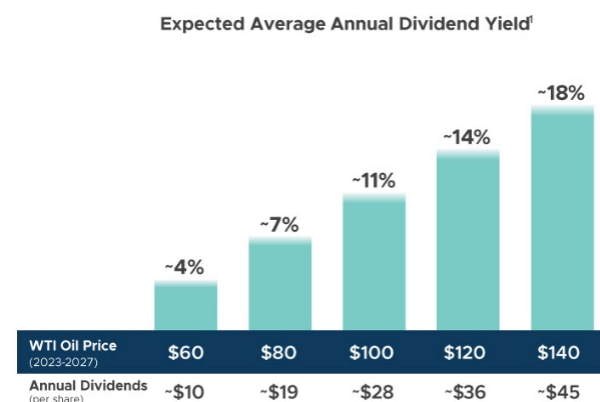
The capital structure consists primarily of equity and historically, Pioneer has operated under low amounts of leverage. As of current, 2022 reporting their total debt/equity ratio is 27%. Over the past 10 years, long-term debt has averaged 18% of total non-cash assets. The oil and gas extraction industry averages debt to equity ratio over the past five years has been 52%. During the first three quarters of 2022, Pioneer has paid \$1.5mm in notes outstanding, a portion of which were early retirements of notes maturing in 2024 and 2026. As of Q3 2022, PXD holds no variable rate debt and thus has no risk associated with rising interest rates. The sources of debt availability are through a corporate credit facility with loan commitments of \$2.0 billion all of which is currently unused as of Sept. 30th. Company issued notes are also outstanding in the form of senior notes and convertible senior notes with tranches of maturities ranging until 2031. Pioneer is investment grade rated by all three major rating agencies as follows:

Investment Grade	
Moody's	Baa1
Standard and Poor's	BBB
Fitch	BBB+
Industry Average	
Fitch	BB-

Source: Bloomberg Terminal⁴⁰

Shareholder Return Framework

Pioneer has made significant milestones in their investment framework and their commitments to returning meaningful capital to shareholders. The best-in-class payout structure is derived from excellent FCF management and supported by a wide range of WTI oil prices from low breakeven price per bbl. Their return framework consists of variable and base dividends along with share buyback efforts.



Source: PXD Investor Presentation Q3 2022⁴⁴

Variable and Base Dividends:

Starting in 2021 Pioneer introduced a variable based dividend which is dependent on quarterly performance. When Pioneer does well, they make sure their investors are also sharing the growth and providing impressive total returns. During 2021 they paid out \$4.53/share on top of their base dividend of \$2.30/share marking a significant milestone in Pioneer's shareholder returns. Due to revenue growth in 2022, Pioneer has declared full FY variable dividends of \$24.34/share, a 272% increase YoY.

Share Repurchases:

Investment has been consistently made in allocating FCF to the buyback of shares. Growth in treasury stock over the past 10 years has a 17% CAGR and recently has been more aggressive during times of high FCF. In 2022 PXD has executed \$1.25mm in share repurchase of their \$4mm authorization that was announced

in February of 2022, replacing their \$2mm authorization previously in place. (10Q322).

Capital Expenditures and Budget:

Expenditures related to the additions of oil and gas properties have remained stable averaging \$2.5mm per year. Historical CapEx has dug into operating cash flows providing negative FCF from 2013-2018. Over the past three years their past investments are starting to provide growing returns and operating cash flows have been able to cover capital expenditures and create stronger positive FCF. Pioneer has been adamant on the future capital budget growth being at or below 5% YoY.³² Future focus has been set on shareholder returns rather than growth expenditures. We estimate CapEx to be around \$3.5mm providing a FCF of \$7mm in 2022 and in line with management strategy for conservative capital allocation. These estimates are in line with the ability to grow future production and reserve growth based on the historical amount of CapEx spent on growing reserves and production quantities.

Recent Earnings: (Bloomberg)

Over the last three quarters and for FY 2021 Pioneer has exceeded both EPS and revenue consensus estimates. Over the past three quarters of 2022 EPS multiples have already exceeded FY 2021 EPS by \$10.25 and revenue by \$6.15mm. Average surprise for revenue has been 8.55% and EPS at 4.19% during these seven earnings cycles. The correlations between earnings surprises and price movements have historically been 0.44.

	FY 21	Q1 22	Q2 22	Q3 2022
EPS				
Consensus	12.81	7.33	8.86	7.32
Reported	13.26	7.75	9.13	7.56
Revenue (mm)				
Consensus	9.04	3.84	4.47	3.96
Reported	15.24	6.08	6.94	5.94

Source: Bloomberg Terminal⁴⁰

Acquisitions:

Pioneer has a very active past in selling and acquiring businesses as well as land. Since 2011 they have chosen to focus on their United States assets particularly in the Permian Basin region. PXD has made two notable acquisitions recently (below). The Parsley Acquisition provided Pioneer nearly 1 million acres across the Delaware and Midland sub-basins. Later in 2021, Pioneer sold all assets in the Delaware Basin focusing strictly on their play in the Midland Basin. If Pioneer chooses to keep its operations solely in the Permian region, then there will not be much opportunity for future acquisition growth. Given the remarks made by CEO Sheffield, there is nobody left in the basin to consolidate with and there is no outlook on plans to consolidate with prospective companies.

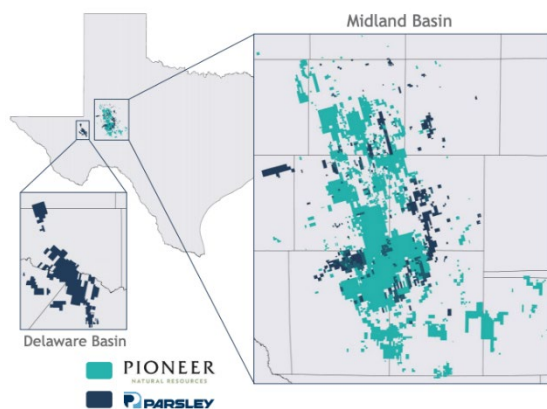
Date	Company	Payment
5/4/21	DoublePoint	27 million common shares at fair value of \$4.2 billion and \$1 billion of cash
1/12/21	Parsley Energy Inc	Parsley Class A common shares converted to PXD at a ratio of 0.1252, resulting in 52 million shares of PXD at a value of \$6.9 billion

Source: 2021 Pioneer 10K⁴¹

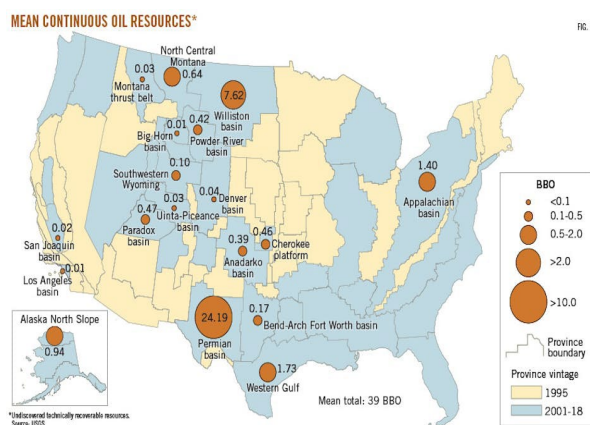
Strengths:

Permian Basin Position

The Permian Basin provides one of the largest oil reserves in the world while offering efficient extraction costs. Pioneer's greatest strength is the position they hold in this region as they are the largest oil producer there, providing a massive competitive advantage in the U.S.



Source: Hart Energy²



Source: ogj.com²²

Acquisitions and Divestitures

Pioneer actively seeks to acquire or trade acreage that will complement operations, provide opportunities for exploration, and development in hopes to increase the length of future horizontal wells. They evaluate these opportunities by internal financial analyses and oil and gas reserve analyses. They also have recently disposed of all assets located in the Delaware Basin to provide capital resources for the company to focus completely on the Permian Basin.

Weaknesses:

Commodity Price Volatility

The biggest weakness Pioneer has is the constant fluctuation in crude oil prices. With little control over the market price of commodities, they are constantly exposed to price volatility.

Opportunities:

Prices and Demand

Although prices have declined over the year, they remain in the upper quartile of the 10-year price history of crude oil. With the demand forecast decreasing slightly it is still expected to increase in the future. The necessity for oil and gas will continue to rise as geopolitical constraints continue to increase demand providing opportunities for revenue growth.

Threats:

Green Energy Transition

As the world seeks a cleaner source of energy for the future the oil and gas sector may face many new competitors in the future. The overall energy sector is not able to completely shift away from oil and gas but the market share of companies in this industry may decrease.

Regulations

The Biden administration actively pursues a transition into ways to provide clean energy. The SEC proposed disclosure rules forcing companies to divulge information about the climate risks of their operations, along with mitigation strategies. This may be required if the rule were to pass. With the popularity of clean energy increasing this may steer consumers away from use of oil and gas. Technological advancements also create more competitors as new ways to produce clean energy are being created.

Valuation Methodology

Production and Revenue Growth

Production was formulated from the historical production-to-reserve ratio for oil, NGLs and gas of 13%, 8%, and 8% respectively and held through the forecast period. Reserve growth slowing to 2% in our CV year along with production growth to around 3%. We have a total production CAGR of 5% until 2031. Revenues are then forecasted based on the level of production during the fiscal year and the forecasted commodity pricing.

Commodity Prices

We built the model to be dynamic for eventual changes in commodity prices. Building in three scenarios: conservative, base, and optimistic cases for different oil price scenarios that can be interchanged during new information. Current model estimates are provided by NYMEX yearly average commodity prices which is our base case scenario. Optimistic and conservative cases have a $\pm 10\%$ spread from the base case. Natural gas liquids do not have an index on the NYMEX and thus observed a historical +16% spread from natural gas to NGLs pricing and kept that throughout the model.

Sales/Expense of Purchased Commodities

Forecasted as a percent of total production, a ten-year historical average of 56% was held constant throughout the forecasting period with the assumption that as production grows, purchased commodities will also grow. The expense portion has averaged 100.12% of purchased commodities revenue. This ratio was held constant throughout the forecast period realizing a net zero benefit from purchased commodities.

Production Expenses

These expenses were based of production quantity in the given fiscal year. Production

expenses were held at 0.78% based on historical averages and forecasted as a percentage of total yearly production. This method is included in oil and gas production expense and ad valorem taxation expense.

Long/Short Term Debt

Current portion of long-term debt is forecasted based on current data from Pioneers Q3 2022 10-Q. The current debt maturities for the outstanding debt are forecasted to all the respective dates of maturity. Long-Term debt is forecasted based on the proportion of debt-to-total non-cash assets. Averaging at 18.71% of total non-cash assets, we carry that average forward under the assumption they will need similar debt structures to run and grow operations as they did in the historical period.

Capital Expenditures

Management has said they aim to keep CapEx around a 5% level for the foreseeable future.⁴³ Pioneer wants to keep capital expenditures at a modest range to not grow out of inventory and continue to provide their industry leading return to shareholders framework. We model a combined 5% growth in capital expenditures with a 4% growth in oil and gas properties and a 1% growth in other property plant and equipment YoY until 2031. This level of CapEx growth will be sufficient to fund future growth of production and reserves while not cutting into their FCF still allowing them to provide shareholder with sufficient returns.

Dividends and Share Repurchases

Since the variable dividend has been introduced, Pioneer has based their dividends of a percentage of FCF. With growth shifts in FCF over the forecast period, the dividends will emulate the growth of the FCF. Thus, as FCF increases and decreases, the dividend will move with. Share repurchases are forecasted based on the knowledge of their recent revision of their share repurchase authorization. The revision authorizes

the repurchase of \$4mm worth of Pioneer shares and we project the authorization amount to be dispersed evenly over the forecast period to the amount of \$271mm each year starting in 2023. This is pending any future changes in the share repurchase authorization plan.

Weighted Average Cost of Capital (WACC)

We have computed Pioneer's WACC to be 10.37% by using the weights of 8.17% for debt and 91.83% for equity. We predict that Pioneer will continue to maintain a stable capital structure moving forward, involving low amounts of debt.

Cost of Equity

We calculated Pioneer's cost of equity using the Capital Asset Pricing Model (CAPM). For our risk-free rate, we used the 10-year treasury yield of 4.10%. We arrived at a beta of 1.28 using average of weekly, monthly, and yearly betas from Bloomberg beta regression.⁴⁰ Finally, our equity risk premium was 5.30%, found using Damodaran estimates.⁴² Using the information above in the CAPM equation we calculated a cost of equity equal to 10.53%.

Cost of Debt

We sourced the cost of debt by using the Bloomberg terminal, using the line of best fit for yield to maturity on a 10-year pioneer corporate bond, giving us a pre-tax cost of debt equal to 5.99%. We used a forecasted marginal tax rate of 22% by adding federal tax rate to state and local tax rate, ending at an after-tax cost of debt equal to 4.67%.

Discounted Cash Flow

The DCF model was computed though free cash flows over the forecast period. Free cash flow was derived from NOPLAT after capital expenditures. CV year valuation was enforced using a terminal growth rate of 2.5% and terminal year ROIC of 19.87%. Discounting fiscal year FCF and terminal year value by the

WACC we arrive at the company value attributable to operating assets of \$68,372mm. Non-operating adjustments were subsequently added or subtracted from the operating value of the firm to arrive at an implied valuation of the firm per share of \$256.94. Through are conservative estimates of future company growth, we believe the DCF model accurately represents the intrinsic value of the firm and weighted it the most favorable out of the three valuation methods.

Economic Profit

While we arrive at the same intrinsic value per share of \$256.94, this model incorporated the EP value driver rather than FCF. EP was created as return on invested capital exceeded the firms WACC. Each fiscal year economic profit and terminal year value was discounted by the WACC to arrive at the same value of companywide operating assets as our DCF valuation. As with our DCF valuation we put the most weight on this model as the firm's intrinsic value.

Dividend Discount Model

The dividend discount model is one-dimensional, taking the present value of expected dividends to compute a stock price as of today. We computed DDM by projecting our dividends and discounting them by cost of equity. The implied price given by the model was \$190.32. We put lower emphasis on this model compared to the DCF/EP valuation approach given Pioneers dividend structure is highly unpredictable.

Relative Valuation

The relative valuation was not considered in the target price calculation. While comparable provide a fine basis for valuation, the DCF/EP encompass the entirety of the firm over the forecast period rather than based on current pricing in the market. We do not feel, on a comparable basis, Pioneer is valued correctly, and their full value is captured in the enterprise models.

Sensitivity Analysis

WACC to CV ROIC

Slight changes in the WACC can create exponential differences in the implied stock price. There appears to be a $\pm\$10$ difference as we move WACC by 0.20%. Examining ROIC, we expect comparable results, as higher CV return on capital would indicate greater EP and a more profitable business. ROIC increases are more modest than WACC, only affecting the price by $\pm\$1$.

		WACC						
	261.75	9.30%	9.55%	9.80%	10.05%	10.25%	10.50%	10.75%
CV ROIC	16.87%	288.20	277.49	267.51	258.19	251.16	242.86	235.07
	17.87%	289.83	279.04	268.97	259.57	252.49	244.13	236.27
	18.87%	291.30	280.42	270.28	260.81	253.68	245.25	237.34
	19.87%	292.62	281.66	271.46	261.93	254.74	246.27	238.30
	20.87%	293.81	282.79	272.52	262.94	255.71	247.19	239.18
	21.87%	294.89	283.81	273.49	263.85	256.59	248.02	239.97
	22.87%	295.88	284.74	274.37	264.69	257.39	248.78	240.69

Risk Free Rate to CV Growth of NOPLAT

These drivers against themselves will move against each other based on how they affect the CAPM and the CV formula for both DCF and EP valuations. Rf rates directly affect the cost of equity and thus affecting the WACC and discount rate as examined above. Affects from changes in risk free rates can also be seen in the DDM as the cost of equity is the discount factor, we use to present value dividend cash flows.

Increases in the CV growth of NOPLAT heighten the implied stock as implied long-term growth is higher with higher future cash flows increasing the PV of the company value.

		Risk Free Rate						
CV G NOPLAT	261.75	3.00%	3.25%	3.50%	3.75%	4.00%	4.50%	5.00%
	1.75%	277.78	269.49	261.68	254.30	247.31	234.40	222.75
	2.00%	280.91	272.32	264.25	256.63	249.43	236.16	224.20
	2.25%	284.25	275.35	266.98	259.11	251.68	238.01	225.74
	2.50%	287.84	278.59	269.91	261.75	254.07	239.98	227.37
	2.75%	291.71	282.06	273.04	264.58	256.62	242.08	229.09
	3.00%	295.87	285.80	276.40	267.60	259.35	244.30	230.92
	3.25%	300.38	289.83	280.01	270.85	262.28	246.68	232.86

Beta to Equity Risk Premium (ERP)

Two fundamental drivers of the cost of equity and the WACC calculation. The change in these variables is tied to the current systemic risk associated with the equity and the market at the time of valuation. When risk changes, the cost of equity changes and subsequently the WACC resulting in a higher or lower discount value and implied stock price. Lower betas and ERP's will result in a higher valuation and implied stock price.

		Beta						
ERP	261.75	0.98	1.08	1.18	1.28	1.38	1.48	1.58
	5.00%	338.92	314.33	293.06	274.49	258.13	243.61	230.62
	5.10%	333.80	309.48	288.46	270.11	253.95	239.61	226.80
	5.20%	328.84	304.78	284.00	265.87	249.91	235.75	223.10
	5.30%	324.01	300.21	279.67	261.75	245.99	232.01	219.52
	5.40%	319.33	295.79	275.47	257.76	242.19	228.38	216.05
	5.50%	314.79	291.49	271.40	253.89	238.50	224.86	212.69
	5.60%	310.36	287.31	267.44	250.14	234.93	221.45	209.43

CapEx Growth to Depreciation Rate

Changes in the amount of capital expenditures can affect the return on invested capital and the free cash flow for the forecasted period. If CapEx is not employed efficiently to drive growth, lower valuation will ensue from higher invested capital with lower NOPLAT. Higher depreciation rates increase valuation from the lower amount of net capital employed in a fiscal year, resulting in higher ROIC and subtle increases to implied pricing.

CapEx Growth								
	261.75	2.00%	3.00%	4.00%	5.00%	6.00%	7.00%	8.00%
Depreciation Rate	8.47%	280.39	274.91	269.17	263.16	256.87	250.28	243.38
	9.47%	280.04	274.41	268.52	262.34	255.88	249.11	242.02
	10.47%	280.03	274.26	268.22	261.89	255.26	248.31	241.04
	11.47%	280.31	274.41	268.23	261.75	254.97	247.85	240.40
	12.47%	280.84	274.82	268.50	261.88	254.95	247.67	240.05
	13.47%	281.58	275.44	269.00	262.24	255.16	247.73	239.95
	14.47%	282.50	276.24	269.68	262.79	255.57	248.00	240.06

Production/Reserve Ratio to Oil & Gas Expense

Production changes have large effects on the implied price as just 1% changes in the level of production change implied price by $\sim\$20$. It is important to examine these production metrics as to determine the quantity of risk involved with Pioneer not meeting production expectations. Similarly, oil and gas production expense yield

similar effects on the implied price. 0.10% movements in the proportion of production expense changes implies price by ~\$10, highlighting the importance of efficient operational methods.

		Oil Production/Reserve Ratio 2022-2031E						
Oil/Gas Exp. % Prod.	261.75	10.34%	11.34%	12.34%	13.34%	14.34%	15.34%	16.34%
	0.48%	230.28	254.53	278.78	303.03	327.29	351.54	375.79
	0.58%	217.98	241.74	265.50	289.25	313.01	336.77	360.53
	0.68%	205.70	228.96	252.23	275.49	298.76	322.02	345.29
	0.78%	193.43	216.21	238.98	261.75	284.53	307.30	330.07
	0.88%	181.19	203.47	225.75	248.03	270.31	292.60	314.88
	0.98%	168.96	190.75	212.54	234.33	256.12	277.91	299.71
	1.08%	156.75	178.05	199.35	220.65	241.95	263.25	284.56

Price of Gas (bbl.) to NGL Spread

Both increases and decreases in the price per barrel of oil and the spread between NGL and natural gas prices produce large effects on the value of the firm. Intuitively as both increases, we expect to see intrinsic value rise, but interestingly, the effects are smaller than actual production changes as observed above.

Implying the importance of a firm's ability to produce and not rely on commodity prices for growth potential

		NGL Spread						
Price of Gas (Boe)	261.75	13.00%	14.00%	15.00%	16.00%	17.00%	18.00%	19.00%
	\$70.00	239.17	240.14	241.11	242.09	243.06	244.03	245.01
	\$80.00	246.31	247.28	248.26	249.24	250.22	251.19	252.17
	\$90.00	253.50	254.48	255.47	256.45	257.43	258.41	259.39
	\$97.31	258.80	259.78	260.77	261.75	262.74	263.72	264.71
	\$100.00	260.75	261.74	262.72	263.71	264.70	265.68	266.67
	\$110.00	268.06	269.05	270.04	271.03	272.02	273.01	274.00
	\$120.00	275.43	276.42	277.42	278.41	279.40	280.40	281.39

References

1. FactSet Database (2022). <https://www.factset.com/>
2. Pioneer Completes Parsley Energy Acquisition through All-stock Merger | Hart Energy. (n.d.). www.hartenergy.com. Retrieved November 18, 2022, from <https://www.hartenergy.com/exclusives/pioneer-completes-parsley-energy-acquisition-through-all-stock-merger-191825>
3. Cifrino, D., & Hollinger, J. (2022, April 8). *SEC Proposes Landmark Standardized Disclosure Rules on Climate-Related Risks*. The Harvard Law School Forum on Corporate Governance. <https://corpgov.law.harvard.edu/2022/04/08/sec-proposes-landmark-standardized-disclosure-rules-on-climate-related-risks/>
4. *OPEC cuts oil demand growth forecast again as economic challenges mount*. (2022, November 14). Al Arabiya English. <https://english.alarabiya.net/business/energy/2022/11/14/OPEC-cuts-oil-demand-growth-forecast-again-as-economic-challenges-mount>
5. Watts, W. (n.d.). *OPEC cuts forecasts for oil-demand growth in 2022, 2023*. MarketWatch. Retrieved November 18, 2022, from <https://www.marketwatch.com/story/opec-slashes-forecasts-for-oil-demand-growth-in-2022-2023-11665576195>
6. Trading Economics. (2022). *Crude oil*. [Tradingeconomics.com](http://tradingeconomics.com). <https://tradingeconomics.com/commodity/crude-oil>
7. OPEC. (2018). *OPEC : OPEC Share of World Crude Oil Reserves*. Opec.org. https://www.opec.org/opec_web/en/data_graphs/330.htm
8. OPEC. (2018). *OPEC : OPEC Share of World Crude Oil Reserves*. Opec.org. https://www.opec.org/opec_web/en/data_graphs/330.htm
9. *World oil supply and demand, 1971-2018 – Charts – Data & Statistics*. (n.d.). IEA. <https://www.iea.org/data-and-statistics/charts/world-oil-supply-and-demand-1971-2020>
10. Trading Economics. (2022). *Crude oil*. [Tradingeconomics.com](http://tradingeconomics.com). <https://tradingeconomics.com/commodity/crude-oil>
11. Staff, A. J. (2022, March 10). *Infographic: How much of your country's oil comes from Russia?* www.aljazeera.com. <https://www.aljazeera.com/news/2022/3/10/infographic-how-much-of-your-countrys-oil-comes-from-russia-interactive>
12. *Why Is Natural Gas Priced Differently Around The World?* (2020, December 8). GEO ExPro. <https://www.geoexpro.com/articles/2020/12/why-is-natural-gas-priced-differently-around-the-world>
13. Eia. (2016). *Factors affecting natural gas prices - U.S. Energy Information Administration (EIA)*. Eia.gov. <https://www.eia.gov/energyexplained/natural-gas/factors-affecting-natural-gas-prices.php>
14. *Henry Hub Natural Gas Futures Settlements - CME Group*. (2015). @CMEGroup. <https://www.cmegroup.com/markets/energy/natural-gas/natural-gas.settlements.html>
15. *10-Year T-Note Futures Quotes - CME Group*. (2015). @CMEGroup. <https://www.cmegroup.com/markets/interest-rates/us-treasury/10-year-us-treasury-note.quotes.html>
16. Press, T. A. (2022, April 16). Biden increases oil royalty rate and scales back lease sales on federal lands. *NPR*. <https://www.npr.org/2022/04/16/1093195479/biden-federal-oil-leases-royalties>
17. \$40 Billion Available through Biden's Department of Energy's Loan Program Office for Innovative Technologies. (n.d.). The National Law Review. Retrieved November 18, 2022, from <https://www.natlawreview.com/article/40-billion-available-through-biden-s-department-energy-s-loan-program-office>
18. How Oil Prices Affect Gross Domestic Product (GDP) - 1128 Words | Research Paper Example. (n.d.). Free Essays. <https://ivypanda.com/essays/how-oil-prices-affect-gross-domestic-product-gdp/>
19. The Connection Between Oil Prices, Debt Levels, and Interest Rates. (n.d.). OilPrice.com. <https://oilprice.com/Energy/Energy-General/The-Connection-Between-Oil-Prices-Debt-Levels-and-Interest-Rates.html>
20. What Level of Oil Supply Growth is Needed to Support World GDP Growth? (n.d.). OilPrice.com. Retrieved November 18, 2022, from <https://oilprice.com/Energy/Crude-Oil/What-Level-of-Oil-Supply-Growth-is-Needed-to-Support-World-GDP-Growth.html>
21. StackPath. (n.d.). www.ogj.com. Retrieved November 18, 2022, from <https://www.ogj.com/exploration-development/area-drilling/article/17232378/multiple-stacked-plays-drive-continued-permian-development>
22. 10 Year Treasury Rate - 54 Year Historical Chart. (2009). MacroTrends.net.

23. Annual Energy Outlook 2022 - U.S. Energy Information Administration (EIA). Annual Energy Outlook - U.S. production of natural gas and petroleum and other liquids rises amid growing demand for exports and industrial uses - U.S. Energy Information Administration (EIA). (n.d.). Retrieved November 17, 2022, from <https://www.eia.gov/outlooks/aeo/narrative/production/sub-topic-01.php>
24. Chronis, A., Tilghman, N., Hardin, K., & Mittal, A. (2021, November 16). Portfolio transformation in oil and Gas. Deloitte Insights. Retrieved November 17, 2022, from <https://www2.deloitte.com/us/en/insights/industry/oil-and-gas/portfolio-optimization-oil-gas-chemicals.html>
25. Heineke, F., Janecke, N., Klärner, H., Kühn, F., Tai, H., & Winter, R. (2022, October 26). Renewable-energy development in a net-zero world. McKinsey & Company. Retrieved November 17, 2022, from <https://www.mckinsey.com/industries/electric-power-and-natural-gas/our-insights/renewable-energy-development-in-a-net-zero-world>
26. EEI projects 26 million electric vehicles will be on US roads in 2030 | . (n.d.). Retrieved November 17, 2022, from <https://www.eei.org/News/news/All/eei-projects-26-million-electric-vehicles-will-be-on-us-roads-in-2030>
27. Tax information. PDC Energy. (2018, December 27). Retrieved November 17, 2022, from <http://www.pdce.com/royalty-owners/tax-information/>
28. County ad valorem tax – taxes on oil & gas royalties. MineralWise. (n.d.). Retrieved November 17, 2022, from <https://mineralwise.com/owners-guide/leased-and-producing/royalty-taxes/ad-valorem-taxes>
29. Industry ratios (benchmarking): Debt-to-equity ratio. (n.d.). Retrieved November 17, 2022, from <https://www.readyratios.com/sec/ratio/financial-leverage/>
- 30 . U.S. Energy Information Administration - EIA - independent statistics and analysis. Proved Reserves of Crude Oil and Natural Gas in the United States, Year-End 2020. (n.d.). Retrieved November 17, 2022, from <https://www.eia.gov/naturalgas/crudeoilreserves/>
31. Horizontal well. Horizontal well - Energy Education. (n.d.). Retrieved November 17, 2022, from https://energyeducation.ca/encyclopedia/Horizontal_well
32. Spencer, S. (2022, February 17). Pioneer, marathon raise capital budgets but keep output targets flattish. S&P Global Commodity Insights. Retrieved November 17, 2022, from <https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/oil/021722-pioneer-marathon-raise-capital-budgets-but-keep-output-targets-flattish>
34. Natural Gas2022 data - 1990-2021 historical - 2023 forecast - price - quote - chart. Natural gas - 2022 Data - 1990-2021 Historical - 2023 Forecast - Price - Quote - Chart. (n.d.). Retrieved November 17, 2022, from <https://tradingeconomics.com/commodity/natural-gas>
34. Bloomberg. (2022, October 30). Pioneer CEO sees oil price rebounding to \$120 next year. mySA. Retrieved November 17, 2022, from <https://www.mysanantonio.com/business/oil/article/Pioneer-CEO-sees-oil-price-rebounding-to-120-17544570.php>
35. News releases. Pioneer Natural Resources Company. (n.d.). Retrieved November 17, 2022, from <https://investors.pxd.com/news-releases>
36. DiLallo, M. (2016, July 16). The 5 companies dominating the Permian Basin. The Motley Fool. Retrieved November 17, 2022, from <https://www.fool.com/investing/2016/07/16/the-5-companies-dominating-the-permian-basin.aspx#:~:text=While%20there%20are%20hundreds%20of%20energy%20companies%20operating,Data%20source%3A%20Rystad%20Energy%20and%20company%20investor%20presentations.>
37. Adamkasi. (2018, December 15). Porter's five forces of Oil Industry. Porter Analysis. Retrieved November 17, 2022, from <https://www.porteranalysis.com/porters-five-forces-of-oil-industry/>
38. c1admin. (2020, August 21). Rig count trends: What's happening and why. MSI. Retrieved November 17, 2022, from <https://msipipeprotection.com/rig-count-trends-whats-happening-and-why/>
39. Herrmann, L, Dunphy, E, Copus, J. Oil & Gas for Beginners. (2010). Deutsche Bank
40. Bloomberg L.P. (2022) from Bloomberg terminal.
41. Pioneer 10-K Report (2012-2022), Retrieved from <https://www.pxd.com/>
42. Pioneer Q3 2022 10-Q Report. (2022). <https://www.pxd.com/>
43. Barclays Energy Conference. (2022). Retrieved from Bloomberg LP.
44. Pioneer Quarter 3 Investor Presentation. (2022). Retrieved from <https://www.pxd.com/>

Pioneer Natural Resources
Revenue Decomposition

Fiscal Years Ending Dec. 31	2019	2020	2021	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
Oil and Gas Revenue	4,916	3,630	11,503	16,936	14,742	14,198	14,288	14,642	15,063	16,300	16,435	16,934	17,324
% Growth	-2%	-26%	217%	47%	-13%	-4%	1%	2%	3%	8%	1%	3%	2%
Total Revenue	9,304	6,685	14,643	26,524	23,164	22,311	22,453	23,009	23,672	25,613	25,826	26,612	27,224
% Growth	-1%	-28%	119%	81%	-13%	-4%	1%	2%	3%	8%	1%	3%	2%
Production Revenue													
Oil													
Annual Sales Volume (MBbls)	77,509	77,095	130,300	129,063	138,351	147,526	156,497	165,153	173,380	181,063	188,090	194,356	199,761
% Growth	11%	-1%	69%	-1%	7%	7%	6%	6%	5%	4%	4%	3%	3%
Average Price (per Bbl)	54	37	68	97	79	71	67	63	60	62	60	58	57
% Growth	-6%	-31%	82%	44%	-19%	-10%	-7%	-5%	-4%	3%	-3%	-3%	-2%
Revenue	4,168	2,871	8,808	12,559	10,968	10,517	10,410	10,398	10,448	11,197	11,252	11,288	11,324
% Growth	0	(0)	2	43%	-13%	-4%	-1%	0%	0%	7%	0%	0%	0%
NGL's													
Annual Sales Volume (MBbls)	26,398	31,376	52,204	57,475	64,214	71,262	78,548	85,990	93,493	100,948	108,242	115,250	121,848
% Growth	13%	19%	66%	10%	12%	11%	10%	9%	9%	8%	7%	6%	6%
Average Price (per Bbl)	19	16	33	44	35	31	31	31	32	33	32	33	33
% Growth	(0)	(0)	1	35%	-21%	-10%	-2%	2%	2%	4%	-4%	3%	1%
Revenue	510	490	1,707	2,534	2,240	2,236	2,404	2,678	2,959	3,318	3,410	3,753	4,022
% Growth	(0)	(0)	2	48%	-12%	0%	8%	11%	10%	12%	3%	10%	7%
Gas													
Annual Sales Volume (MBOE)	22,208	25,944	42,822	48,506	50,970	53,432	55,879	58,299	60,678	63,002	65,257	67,430	69,507
% Growth	-7%	17%	65%	13%	5%	5%	5%	4%	4%	4%	4%	3%	3%
Average Price (per BOE)	11	10	23	38	30	27	26	27	27	28	27	28	28
% Growth	-16%	-3%	123%	165%	79%	90%	98%	102%	102%	104%	96%	103%	101%
Revenue	239	269	989	1,843	1,533	1,445	1,474	1,565	1,656	1,785	1,773	1,893	1,978
% Growth	(0)	0	3	86%	-17%	-6%	2%	6%	6%	8%	-1%	7%	4%
Total Production													
Annual Sales Volume (MBOE)	126,115	134,415	225,326	235,044	253,535	272,219	290,924	309,442	327,550	345,013	361,589	377,036	391,117
% Growth	8%	7%	68%	4%	8%	7%	7%	6%	6%	5%	5%	4%	4%
Average Price (per BOE)	39	27	51	60	48	43	41	40	40	41	39	40	39
% Growth	-9%	-31%	89%	17%	-20%	-10%	-5%	-2%	-1%	3%	-4%	0%	0%
Revenue	4,916	3,631	11,503	16,936	14,742	14,198	14,288	14,642	15,063	16,300	16,435	16,934	17,324
% Growth	-1%	-26%	217%	47%	-13%	-4%	1%	2%	3%	8%	1%	3%	2%
Other Revenue													
Sale of Purchased Commodities	4,755	3,394	6,367	9,646	8,397	8,087	8,138	8,339	8,579	9,284	9,361	9,645	9,867
% Growth	8%	-29%	88%	52%	-13%	-4%	1%	2%	3%	8%	1%	3%	2%
Gain (loss) on Disposition of Assets	(477)	9	(1,067)	105	-	-	-	-	-	-	-	-	-
% Growth	(3)	(1)	(120)	-110%	-	-	-	-	-	-	-	-	-
Derivative Gain (Loss)	34	(281)	(2,183)	(187)	-	-	-	-	-	-	-	-	-
% Growth	(1)	(9)	7	-91%	-	-	-	-	-	-	-	-	-
Interest and Other Income	76	(67)	23	24	25	26	27	28	29	30	31	32	33
% Growth	100%	-188%	-134%	4%	4%	4%	4%	4%	4%	4%	3%	3%	4%
Total Other Revenue	4,388	3,055	3,140	9,588	8,422	8,113	8,165	8,367	8,609	9,314	9,392	9,678	9,900
% Growth	-1%	-30%	3%	305%	88%	96%	101%	102%	103%	108%	101%	103%	102%

Pioneer Natural Resources
Income Statement
Values in millions except for share data

Fiscal Years Ending Dec. 31	2019	2020	2021	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
Revenue													
Oil & Gas Revenue	4,916	3,630	11,503	16,936	14,742	14,198	14,288	14,642	15,063	16,300	16,435	16,934	17,324
Sales of Purchased Oil & Gas	4,755	3,394	6,367	9,646	8,397	8,087	8,138	8,339	8,579	9,284	9,361	9,645	9,867
Total Interest and Other Income (loss)	76	(67)	23	24	25	26	27	28	29	30	31	32	33
Derivative gain (loss)	34	(281)	(2,183)	(200)	-	-	-	-	-	-	-	-	-
Gain (loss) on disposition of assets	(477)	9	(1,067)	70	-	-	-	-	-	-	-	-	-
Total revenues & other income	9,304	6,685	14,643	26,476	23,164	22,311	22,453	23,009	23,672	25,613	25,826	26,612	27,224
Expenses													
Oil & gas production expense	874	682	1,267	1,833	1,978	2,123	2,269	2,414	2,555	2,691	2,820	2,941	3,051
Production & ad valorem taxes	299	242	651	580	606	630	651	701	764	811	847	882	936
Depletion, depreciation & amortization	1,711	1,639	2,498	3,427	3,444	3,475	3,520	3,577	3,645	3,724	3,813	3,913	4,022
Purchased commodities	4,472	3,633	6,560	9,657	8,406	8,096	8,148	8,349	8,589	9,295	9,372	9,657	9,878
Exploration & abandonments expense	58	47	51	89	90	91	91	89	86	83	78	71	64
General & administrative expense	324	244	292	1,474	1,281	1,221	1,220	1,155	1,105	1,194	1,199	1,247	1,287
Interest expense	121	129	161	155	217	193	226	218	196	204	200	236	244
Accretion of discount on asset retirement obligations	10	9	7	29	29	29	30	30	31	32	32	33	34
Other operating costs & expenses	78	26	33	169	147	142	143	146	151	163	164	169	173
Non-operating losses	370	295	377	932	811	781	786	806	829	897	904	932	953
Total costs & expenses	8,317	6,946	11,897	18,346	17,010	16,782	17,082	17,484	17,951	19,092	19,429	20,081	20,642
Income (loss) before income taxes	987	(261)	2,746	8,130	6,153	5,529	5,371	5,525	5,721	6,522	6,398	6,531	6,582
Income tax provision (benefit)	231	(61)	628	1,789	1,354	1,216	1,182	1,216	1,259	1,435	1,407	1,437	1,448
Income (loss) from continuing operations	-	-	-	-	-	-	-	-	-	-	-	-	-
Income from discontinued operations, net of tax	-	-	-	-	-	-	-	-	-	-	-	-	-
Net income (loss)	756	(200)	2,118	6,341	4,800	4,313	4,190	4,310	4,462	5,087	4,990	5,095	5,134
Net income (loss) attributable to noncontrolling interests	-	-	-	-	-	-	-	-	-	-	-	-	-
Net income (loss) attributable to common stockholders	756	(200)	2,118	6,341	4,800	4,313	4,190	4,310	4,462	5,087	4,990	5,095	5,134
Shares Outstanding-Basic	166	164	243	238	237	236	235	235	234	233	233	232	232
EPS	5	(1)	9	26.62	20.24	18.26	17.80	18.37	19.08	21.80	21.44	21.94	22.15
Dividends declared per share	0.32	2.20	6.83	25.44	15.68	14.09	13.51	13.94	14.40	16.27	15.29	15.86	15.66

Pioneer Natural Resources
Balance Sheet
values in millions

Fiscal Years Ending Dec. 31	2019	2020	2021	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
Current assets:													
Cash & cash equivalents	631	1,442	3,847	1,358	3,853	3,427	4,908	4,967	4,808	5,593	5,702	7,368	7,809
Restricted cash	74	59	37	39	40	42	44	45	47	49	50	52	54
Accounts receivable, net	1,035	695	1,685	2,752	2,467	2,414	2,498	2,557	2,571	2,823	2,862	2,888	2,918
Inventories	205	224	369	993	848	797	787	783	773	841	853	897	902
Investment in affiliate	187	123	135	78	45	26	15	9	5	3	2	1	1
Short-term investment	-	-	58	60	63	66	68	71	73	76	79	82	84
Prepaid expenses	-	-	-	37	29	23	19	10	12	14	16	18	20
Derivatives	32	-	-	-	-	-	-	-	-	-	-	-	-
Assets held for sale	-	-	-	58	58	58	58	58	58	58	58	58	58
Notes receivable	-	-	-	50	50	50	50	50	50	50	50	50	50
Other current assets	20	52	42	46	46	46	47	48	49	50	51	53	54
Income tax receivable	7	-	-	18	14	12	12	12	13	14	14	14	14
Total current	2,191	2,595	6,173	5,490	7,513	6,962	8,506	8,610	8,459	9,571	9,738	11,480	11,964
Oil & gas properties gross	25,042	26,557	42,524	46,102	49,819	53,682	57,696	61,866	66,201	70,705	75,385	80,249	85,305
Accumulated depreciation	(8,965)	(10,534)	(12,648)	(16,075)	(19,519)	(22,994)	(26,514)	(30,091)	(33,735)	(37,459)	(41,272)	(45,185)	(49,207)
Oil & gas properties, net	16,077	16,023	29,876	30,027	30,300	30,688	31,181	31,776	32,465	33,246	34,113	35,064	36,098
Operating lease right-of-use assets	280	197	348	350	353	357	363	370	378	387	397	408	420
Goodwill	261	261	243	243	243	243	243	243	243	243	243	243	243
Other assets, net	258	153	171	557	554	558	567	578	589	607	622	639	656
Total assets	19,067	19,229	36,811	36,667	38,963	38,808	40,861	41,577	42,134	44,054	45,113	47,835	49,381
Current liabilities:													
Accounts payable, net	1,411	1,030	2,559	5,389	4,691	4,518	4,547	4,659	4,793	5,187	5,230	5,389	5,513
Interest payable	53	35	53	53	74	66	77	74	67	69	68	80	83
Income taxes payable	3	4	45	3	3	2	2	2	2	3	3	3	3
Current portion of long-term debt	20	300	244	986	750	0	1,083	750	179	379	0	1,100	1,000
Derivatives	12	234	538	561	585	610	633	657	681	706	731	756	783
Operating leases	136	100	121	140	141	143	145	148	151	155	159	163	168
Other current liabilities	431	363	513	343	352	348	360	364	367	381	387	405	414
Total current liabilities	2,066	2,066	4,073	7,475	6,595	5,687	6,848	6,655	6,242	6,880	6,577	7,896	7,964
Long-term debt	1,839	3,160	6,688	4,228	6,561	6,611	6,716	6,836	6,968	7,176	7,351	7,545	7,748
Derivatives	-	66	25	-	-	-	-	-	-	-	-	-	-
Deferred income taxes	1,389	1,366	2,038	2,039	2,040	2,042	2,043	2,044	2,045	2,046	2,047	2,049	2,050
Operating leases	170	110	243	210	212	214	218	222	227	232	238	245	252
Other liabilities, net	1,046	1,052	907	1,161	1,190	1,176	1,220	1,233	1,243	1,290	1,309	1,369	1,401
Equity:													
Common equity	9,163	9,325	19,125	19,125	19,125	19,125	19,125	19,125	19,125	19,125	19,125	19,125	19,125
Treasury stock, at cost	(1,069)	(1,234)	(248)	(1,812)	(2,083)	(2,353)	(2,624)	(2,895)	(3,165)	(3,436)	(3,707)	(3,977)	(4,248)
Retained earnings (accumulated deficit)	4,025	3,478	3,960	4,241	5,323	6,307	7,316	8,356	9,450	10,740	12,172	13,584	15,089
Non controlling interest	-	-	-	-	-	-	-	-	-	-	-	-	-
Total equity	12,119	11,569	22,837	21,554	22,365	23,078	23,817	24,586	25,410	26,429	27,590	28,731	29,966
Total Liabilities and Equity	19,067	19,229	36,811	36,667	38,963	38,808	40,861	41,577	42,134	44,054	45,113	47,835	49,381

Pioneer Natural Resources
Historical Cash Flow Statement

Fiscal Years Ending Dec. 31	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Cash flows from operating activities:										
Net income (loss)	243	(800)	930	(273)	(556)	833	975	756	(200)	2,118
Adjustments to reconcile net income (loss) to net cash provided by operating activities:										
Depletion, depreciation & amortization	708	907	1,047	1,385	1,480	1,400	1,534	1,711	1,639	2,498
Exploration expenses	31	21	90	28	42	22	27	8	11	4
Deferred income taxes	286	(222)	552	(178)	(379)	(519)	274	236	(52)	583
Loss (gain) on disposition of assets, net	(46)	(209)	(9)	(782)	(2)	(208)	(290)	477	(9)	1,067
Loss on early extinguishment of debt	-	-	-	-	-	-	-	-	27	2
Accretion of discount on asset retirement obligations	9	12	12	12	18	19	14	10	9	7
Interest expense	36	17	17	18	13	5	5	9	51	10
Derivative related activity	69	164	(609)	(3)	851	174	(270)	13	325	(451)
Amortization of stock-based compensation	63	71	84	90	89	79	85	100	72	106
Investment valuation adjustments	-	-	-	-	-	-	-	-	-	(1)
South Texas contingent consideration valuation adjustment	-	-	-	-	-	-	-	45	42	-
South Texas deficiency fee obligation, net	-	-	-	-	-	-	-	-	80	(10)
Other adjustments, net	(39)	1,551	42	1,180	110	372	746	128	192	163
Other adjustments	(45)	(6)	34	38	70	85	658	105	125	163
Change in operating assets and liabilities:										
Accounts receivable	(28)	(123)	(29)	54	(141)	(120)	(52)	(227)	309	(607)
Inventories	33	(39)	(37)	8	(32)	(35)	(70)	(20)	(20)	(125)
Operating lease right-of-use assets	-	-	-	-	-	-	-	-	-	52
Other assets	-	-	-	-	-	-	-	(33)	24	(73)
Accounts payable	46	209	104	(258)	58	134	321	(7)	(179)	1,059
Interest payable	11	(6)	(22)	25	3	(9)	(5)	0	(19)	(53)
Income taxes payable	(10)	(0)	1	1	0	0	0	0	0	41
Operating leases	0	0	0	0	0	0	0	0	0	(55)
Other liabilities	(38)	(27)	(38)	(35)	(46)	(45)	(55)	(91)	(219)	(276)
Other changes in operating assets and liabilities, net	466	619	231	(24)	(8)	(3)	3	-	-	-
Net cash provided by operating activities	1,839	2,145	2,366	1,248	1,500	2,099	3,242	3,115	2,083	6,059
Cash flows from investing activities:										
Proceeds from disposition of assets	96	711	877	553	507	352	469	149	60	3,244
Cash used in acquisitions, net of cash acquired	(297)	-	-	-	(428)	-	-	-	-	(826)
Purchase of investments	-	-	-	-	(2,741)	(904)	(669)	-	(1)	-
Distributions from unconsolidated subsidiary	-	25	-	-	-	-	-	-	-	-
Proceeds from investments	-	-	-	-	905	1,467	1,373	624	-	-
Additions to oil & gas properties	(2,758)	(2,639)	(3,243)	(2,110)	(1,857)	(2,365)	(3,520)	(2,988)	(1,602)	(3,169)
Additions to other assets & other property & equipment	(297)	(237)	(333)	(283)	(207)	(342)	(263)	(232)	(125)	(118)
Net cash used in investing activities	(3,256)	(2,140)	(2,699)	(1,840)	(3,821)	(1,792)	(2,610)	(2,447)	(1,668)	(869)
Cash flow from financing activities:										
Proceeds from issuance of senior notes	1,777	467	523	998	-	-	-	-	2,414	3,247
Purchase of derivatives related to issuance of convertible senior notes	-	-	-	-	-	-	-	-	(113)	-
Borrowings under credit facility	-	-	-	-	-	-	-	-	800	650
Repayment of long term debt	(612)	(1,547)	(523)	-	(455)	(485)	(450)	-	(1,998)	(4,658)
Payments of other liabilities	(1)	(4)	-	-	-	-	(23)	(14)	(173)	(164)
Proceeds from issuance of common stock, net of issuance costs	-	1,281	980	-	2,534	-	-	-	-	-
Payments of financing fees	(9)	(0)	-	(9)	-	-	(4)	-	(36)	(32)
Exercise of long-term incentive plan stock options & employee stock purchases	7	10	13	6	7	6	8	6	9	-
Distributions to noncontrolling interests	(36)	(36)	(1)	(1)	-	-	-	-	-	-
Purchases of treasury stock	(63)	(20)	(34)	(31)	(25)	(36)	(179)	(653)	(176)	(269)
Exercise of long-term incentive plan stock options	-	-	-	-	-	-	-	-	-	13
Tax benefits (costs) from share-based payment arrangements	58	18	19	7	-	-	-	-	-	-
Dividends paid	(10)	(11)	(12)	(12)	(13)	(14)	(55)	(127)	(346)	(1,594)
Net cash provided by (used in) financing activities	1,111	158	965	958	2,048	(529)	(703)	(788)	381	(2,807)
Net increase (decrease in cash, cash equivalents and restricted cash	(307)	163	632	366	(273)	(222)	(71)	(120)	796	2,383
Cash, cash equivalents and restricted cash, beginning of period	537	229	393	1,025	1,391	1,118	896	825	705	1,501
Cash, cash equivalents and restricted cash, end of period	230	392	1,025	1,391	1,118	896	825	705	1,501	3,884

Pioneer Natural Resources
Forecasted Cash Flow Statement

Fiscal Years Ending Dec. 31	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
Cash flows from operating activities:										
Net Income	6,341	4,800	4,313	4,190	4,310	4,462	5,087	4,990	5,095	5,134
Depreciation expense	3,427	3,444	3,475	3,520	3,577	3,645	3,724	3,813	3,913	4,022
Deferred income taxes	1	1	1	1	1	1	1	1	1	1
Changes in working capital accounts:										
Change in restricted cash	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Accounts receivable, net	(1,067)	285	53	(84)	(59)	(14)	(252)	(40)	(25)	(30)
Inventories	(624)	146	51	10	4	10	(68)	(12)	(43)	(5)
Prepaid expenses	(37)	9	6	4	9	(1)	(2)	(2)	(2)	(2)
Income tax receivable	(18)	4	1	0	(0)	(0)	(2)	0	(0)	(0)
Notes receivable	(50)	0	0	0	0	0	0	0	0	0
Other current assets	(4)	0	(0)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Accounts payable, net	2,830	(698)	(173)	29	112	134	393	43	159	124
Interest payable	(0)	21	(8)	11	(3)	(7)	3	(1)	12	3
Income taxes payable	(42)	(1)	(0)	(0)	0	0	0	(0)	0	0
Other current liabilities	(170)	9	(4)	13	4	3	14	6	18	10
Cash provided by operating activities:	10,586	8,018	7,712	7,692	7,952	8,230	8,895	8,796	9,123	9,252
Cash flows from investing activities:										
Capital expenditures	(3,578)	(3,717)	(3,863)	(4,014)	(4,171)	(4,334)	(4,504)	(4,681)	(4,864)	(5,055)
Operating right of use assets	(2)	(3)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Short-term investment	(2)	(3)	(3)	(2)	(3)	(3)	(3)	(3)	(3)	(3)
Investment in affiliate	57	33	19	11	6	4	2	1	1	0
Derivative assets	0	0	0	0	0	0	0	0	0	0
Derivative liabilities	23	24	25	23	24	24	25	24	25	27
Derivatives LT	(25)	0	0	0	0	0	0	0	0	0
Assets held for sale	(58)	0	0	0	0	0	0	0	0	0
Other assets	(386)	3	(4)	(9)	(10)	(11)	(18)	(15)	(17)	(17)
Other liabilities	254	29	(14)	43	14	10	46	19	60	32
Cash provided by (used in) investing activities:	(3,719)	(3,633)	(3,844)	(3,954)	(4,147)	(4,318)	(4,460)	(4,664)	(4,808)	(5,028)
Cash flows from financing activities:										
Current portion of long-term debt	742	(236)	(750)	1,083	(333)	(571)	200	(379)	1,100	(100)
Current portion of operating leases	19	1	2	2	3	3	4	4	4	5
Long term portion of operating leases	(33)	2	3	3	4	5	5	6	7	7
Long-term debt	(2,460)	2,333	50	105	121	132	208	175	194	203
Purchases of treasury stock	(1,564)	(271)	(271)	(271)	(271)	(271)	(271)	(271)	(271)	(271)
Dividends Paid	(6,060)	(3,718)	(3,329)	(3,180)	(3,270)	(3,368)	(3,797)	(3,558)	(3,683)	(3,629)
Cash flow provided by (used in) financing activities:	(9,356)	(1,889)	(4,295)	(2,257)	(3,746)	(4,070)	(3,650)	(4,023)	(2,649)	(3,784)
Change in cash	(2,489)	2,495	(427)	1,481	60	(159)	785	109	1,667	440
Beginning cash	3,847	1,358	3,853	3,427	4,908	4,967	4,808	5,593	5,702	7,368
Ending cash	1,358	3,853	3,427	4,908	4,967	4,808	5,593	5,702	7,368	7,809

Pioneer Natural Resources
Value Driver Estimation

Fiscal Years Ending Dec. 31	2019	2020	2021	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
NOPLAT:													
Oil and gas revenue	4,916	3,630	11,503	16,936	14,742	14,198	14,288	14,642	15,063	16,300	16,435	16,934	17,324
Sale of purchased commodities	4,755	3,394	6,367	9,646	8,397	8,087	8,138	8,339	8,579	9,284	9,361	9,645	9,867
Adjusted operating revenue	9,671	7,024	17,870	26,582	23,139	22,285	22,426	22,981	23,642	25,583	25,795	26,580	27,191
-Oil & gas production expense	874	682	1,267	1,833	1,978	2,123	2,269	2,414	2,555	2,691	2,820	2,941	3,051
-Depletion, depreciation & amortization	1,711	1,639	2,498	3,427	3,444	3,475	3,520	3,577	3,645	3,724	3,813	3,913	4,022
-Purchased commodities	4,472	3,633	6,560	9,657	8,406	8,096	8,148	8,349	8,589	9,295	9,372	9,657	9,878
-Exploration & abandonments expense	58	47	51	89	90	91	91	89	86	83	78	71	64
-General & administrative expense	324	244	292	1,474	1,281	1,221	1,220	1,155	1,105	1,194	1,199	1,247	1,287
-Other expenses	78	26	33	169	147	142	143	146	151	163	164	169	173
Total expenses	7,517	6,271	10,701	16,650	15,347	15,149	15,390	15,730	16,131	17,149	17,446	17,998	18,475
+Implied lease interest	17	12	21	21	21	21	22	22	23	23	24	25	25
EBITA	2,171	765	7,190	9,953	7,813	7,157	7,058	7,273	7,534	8,458	8,373	8,606	8,741
Adjusted taxes													
Income tax provision	231	(61)	628	1,789	1,354	1,216	1,182	1,216	1,259	1,435	1,407	1,437	1,448
-Total Interest and Other Income (loss)	(17)	15	(5)	(5)	(6)	(6)	(6)	(6)	(6)	(7)	(7)	(7)	(7)
-Derivative gain (loss)	(8)	65	485	44	0	0	0	0	0	0	0	0	0
-Gain (loss) on disposition of assets	106	(2)	237	(15)	0	0	0	0	0	0	0	0	0
+Interest expense	27	30	36	34	48	42	50	48	43	45	44	52	54
+Tax on lease interest	4	3	5	5	5	5	5	5	5	5	5	5	6
+Other non-operating losses	82	68	84	205	178	172	173	177	182	197	199	205	210
+Accretion of discount on asset retirements	2	2	2	6	6	6	7	7	7	7	7	7	8
Total adjusted taxes	427	120	1,470	2,062	1,585	1,436	1,410	1,446	1,489	1,682	1,656	1,699	1,717
+ Change in deferred taxes	236	(52)	583	1	1	1	1	1	1	1	1	1	1
NOPLAT	1,979	593	6,303	7,892	6,228	5,722	5,650	5,829	6,046	6,777	6,719	6,908	7,025
INVESTED CAPITAL (IC):													
Operating current assets													
Normal Cash	631	453	993	1,795	1,570	1,513	1,522	1,560	1,605	1,737	1,751	1,804	1,846
Accounts receivable	1,035	695	1,685	2,752	2,467	2,414	2,498	2,557	2,571	2,823	2,862	2,888	2,918
Inventories	205	224	369	993	848	797	787	783	773	841	853	897	902
Prepaid expenses	0	0	0	37	29	23	19	10	12	14	16	18	20
Income tax receivable	7	0	0	18	14	12	12	12	13	14	14	14	14
Other current assets	20	52	42	46	46	46	47	48	49	50	51	53	54
Total operating current assets	1,898	1,424	3,089	5,642	4,974	4,805	4,885	4,970	5,022	5,479	5,548	5,674	5,754
Operating current liabilities													
Accounts payable, net	1,411	1,030	2,559	5,389	4,691	4,518	4,547	4,659	4,793	5,187	5,230	5,389	5,513
Income taxes payable	3	4	45	3	3	2	2	2	2	3	3	3	3
Other current liabilities	431	363	513	343	352	348	360	364	367	381	387	405	414
Total operating current liabilities	1,845	1,397	3,117	5,736	5,045	4,868	4,909	5,026	5,163	5,571	5,619	5,796	5,929
Operating working capital	53	27	(28)	(94)	(72)	(63)	(24)	(56)	(141)	(92)	(71)	(122)	(175)
Total property plant and equipment, net	16,077	16,023	29,876	30,027	30,300	30,688	31,181	31,776	32,465	33,246	34,113	35,064	36,098
Operating lease right-of-use assets	280	197	348	350	353	357	363	370	378	387	397	408	420
INVESTED CAPITAL (IC)	16,410	16,247	30,196	30,283	30,581	30,982	31,521	32,090	32,702	33,541	34,439	35,350	36,343
Free Cash Flow (FCF):													
NOPLAT	1,979	593	6,303	7,892	6,228	5,722	5,650	5,829	6,046	6,777	6,719	6,908	7,025
Change in IC	695	(163)	13,949	87	299	401	538	569	612	839	898	911	993
FCF	1,285	755	(7,646)	7,805	5,930	5,321	5,112	5,259	5,434	5,938	5,821	5,997	6,032
Return on Invested Capital (ROIC):													
NOPLAT	1,979	593	6,303	7,892	6,228	5,722	5,650	5,829	6,046	6,777	6,719	6,908	7,025
Beginning IC	15,715	16,410	16,247	30,196	30,283	30,581	30,982	31,521	32,090	32,702	33,541	34,439	35,350
ROIC	12.60%	3.61%	38.79%	26.14%	20.57%	18.71%	18.24%	18.49%	18.84%	20.72%	20.03%	20.06%	19.87%
Economic Profit (EP):													
Beginning IC	15,715	16,410	16,247	30,196	30,283	30,581	30,982	31,521	32,090	32,702	33,541	34,439	35,350
x (ROIC - WACC)	2.54%	-6.44%	28.74%	16.08%	10.51%	8.66%	8.18%	8.44%	8.79%	10.67%	9.98%	10.00%	9.82%
EP	399	(1,057)	4,669	4,856	3,184	2,647	2,535	2,659	2,820	3,488	3,346	3,445	3,470

Pioneer Natural Resources
Common Size Income Statement
Values in millions except for share data

Fiscal Years Ending Dec. 31	2019	2020	2021	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
Oil & Gas Revenue	52.84%	54.30%	78.56%	63.97%	63.64%	63.64%	63.64%	63.63%	63.63%	63.64%	63.63%	63.63%	63.63%
Sales of Purchased Oil & Gas	51.11%	50.77%	43.48%	36.43%	36.25%	36.25%	36.24%	36.24%	36.24%	36.25%	36.24%	36.24%	36.24%
Total Interest and Other Income (loss)	0.82%	-1.00%	0.16%	0.09%	0.11%	0.12%	0.12%	0.12%	0.12%	0.12%	0.12%	0.12%	0.12%
Derivative gain (loss)	0.37%	-4.20%	-14.91%	-0.76%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Gain (loss) on disposition of assets	-5.13%	0.13%	-7.29%	0.26%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total revenues & other income	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Expenses													
Oil & gas production expense	9.39%	10.20%	8.65%	6.92%	8.54%	9.52%	10.11%	10.49%	10.79%	10.51%	10.92%	11.05%	11.21%
Production & ad valorem taxes	3.21%	3.62%	4.45%	2.19%	2.62%	2.82%	2.90%	3.05%	3.23%	3.17%	3.28%	3.31%	3.44%
Depletion, depreciation & amortization	18.39%	24.52%	17.06%	12.94%	14.87%	15.58%	15.68%	15.54%	15.40%	14.54%	14.77%	14.70%	14.77%
Purchased commodities	48.07%	54.35%	44.80%	36.48%	36.29%	36.29%	36.29%	36.29%	36.29%	36.29%	36.29%	36.29%	36.29%
Exploration & abandonments expense	0.62%	0.70%	0.35%	0.34%	0.39%	0.41%	0.40%	0.39%	0.36%	0.32%	0.30%	0.27%	0.23%
General & administrative expense	3.48%	3.65%	1.99%	5.57%	5.53%	5.47%	5.43%	5.02%	4.67%	4.66%	4.64%	4.69%	4.73%
Interest expense	1.30%	1.93%	1.10%	0.59%	0.94%	0.86%	1.01%	0.95%	0.83%	0.80%	0.77%	0.89%	0.89%
Accretion of discount on asset retirement obligations	0.11%	0.13%	0.05%	0.11%	0.12%	0.13%	0.13%	0.13%	0.13%	0.12%	0.13%	0.13%	0.13%
Other operating costs & expenses	0.84%	0.39%	0.23%	0.64%	0.64%	0.64%	0.64%	0.64%	0.64%	0.64%	0.64%	0.64%	0.64%
Non-operating losses	3.98%	4.41%	2.57%	3.52%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
Total costs & expenses	89.39%	103.90%	81.25%	69.29%	73.44%	75.22%	76.08%	75.99%	75.83%	74.54%	75.23%	75.46%	75.82%
Income (loss) before income taxes	10.61%	-3.90%	18.75%	30.71%	26.56%	24.78%	23.92%	24.01%	24.17%	25.46%	24.77%	24.54%	24.18%
Income tax provision (benefit)	2.48%	-0.91%	4.29%	6.76%	5.84%	5.45%	5.26%	5.28%	5.32%	5.60%	5.45%	5.40%	5.32%
Income (loss) from continuing operations	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Income from discontinued operations, net of tax	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Net income (loss)	8.13%	-2.99%	14.46%	23.95%	20.72%	19.33%	18.66%	18.73%	18.85%	19.86%	19.32%	19.14%	18.86%
Net income (loss) attributable to noncontrolling interests	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Net income (loss) attributable to common stockholders	8.13%	-2.99%	14.46%	23.95%	20.72%	19.33%	18.66%	18.73%	18.85%	19.86%	19.32%	19.14%	18.86%

Pioneer Natural Resources
Common Size Balance Sheet

Fiscal Years Ending Dec. 31	2019	2020	2021	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
Current assets:													
Cash & cash equivalents	6.78%	21.57%	26.27%	5.13%	16.63%	15.36%	21.86%	21.59%	20.31%	21.84%	22.08%	27.69%	28.68%
Restricted cash	0.80%	0.88%	0.25%	0.15%	0.17%	0.19%	0.19%	0.20%	0.20%	0.19%	0.19%	0.20%	0.20%
Accounts receivable, net	11.12%	10.40%	11.51%	10.40%	10.65%	10.82%	11.13%	11.11%	10.86%	11.02%	11.08%	10.85%	10.72%
Inventories	2.20%	3.35%	2.52%	3.75%	3.66%	3.57%	3.50%	3.40%	3.27%	3.28%	3.30%	3.37%	3.31%
Investment in affiliate	2.01%	1.84%	0.92%	0.30%	0.20%	0.12%	0.07%	0.04%	0.02%	0.01%	0.01%	0.00%	0.00%
Short-term investment	0.00%	0.00%	0.40%	0.23%	0.27%	0.29%	0.30%	0.31%	0.31%	0.30%	0.31%	0.31%	0.31%
Other, net	0.21%	0.78%	0.29%	0.17%	0.20%	0.21%	0.21%	0.21%	0.21%	0.20%	0.20%	0.20%	0.20%
Prepaid expenses	0.00%	0.00%	0.00%	0.14%	0.12%	0.10%	0.09%	0.05%	0.05%	0.05%	0.06%	0.07%	0.07%
Derivatives	0.34%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Assets held for sale	0.00%	0.00%	0.00%	0.22%	0.25%	0.26%	0.26%	0.25%	0.25%	0.23%	0.23%	0.22%	0.21%
Notes receivable	0.00%	0.00%	0.00%	0.19%	0.21%	0.22%	0.22%	0.22%	0.21%	0.19%	0.19%	0.19%	0.18%
Other current assets	0.21%	0.78%	0.29%	0.17%	0.20%	0.21%	0.21%	0.21%	0.21%	0.20%	0.20%	0.20%	0.20%
Income tax receivable	0.08%	0.00%	0.00%	0.07%	0.06%	0.05%	0.05%	0.05%	0.05%	0.06%	0.05%	0.05%	0.05%
Total current	23.55%	38.82%	42.16%	20.74%	32.44%	31.20%	37.88%	37.42%	35.73%	37.37%	37.70%	43.14%	43.95%
Oil & gas properties, net	172.80%	239.69%	204.03%	113.41%	130.81%	137.54%	138.87%	138.10%	137.15%	129.80%	132.09%	131.76%	132.59%
Other assets, net	2.77%	2.29%	1.17%	2.11%	2.39%	2.50%	2.53%	2.51%	2.49%	2.37%	2.41%	2.40%	2.41%
Total assets	204.93%	287.64%	251.39%	138.49%	168.21%	173.94%	181.98%	180.70%	177.99%	171.99%	174.68%	179.75%	181.39%
Current liabilities:													
Accounts payable, net	15.17%	15.41%	17.48%	20.36%	20.25%	20.25%	20.25%	20.25%	20.25%	20.25%	20.25%	20.25%	20.25%
Interest payable	0.57%	0.52%	0.36%	0.20%	0.32%	0.29%	0.34%	0.32%	0.28%	0.27%	0.26%	0.30%	0.31%
Income taxes payable	0.03%	0.06%	0.31%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%
Current portion of long-term debt	0.21%	4.49%	1.67%	3.72%	3.24%	0.00%	4.82%	3.26%	0.76%	1.48%	0.00%	4.13%	3.67%
Derivatives	0.13%	3.50%	3.67%	2.12%	2.52%	2.73%	2.82%	2.86%	2.88%	2.76%	2.83%	2.84%	2.88%
Operating leases	1.46%	1.50%	0.83%	0.53%	0.61%	0.64%	0.65%	0.64%	0.64%	0.60%	0.62%	0.61%	0.62%
Other current liabilities	4.63%	5.43%	3.50%	1.30%	1.52%	1.56%	1.60%	1.58%	1.55%	1.49%	1.50%	1.52%	1.52%
Total current liabilities	22.21%	30.91%	27.82%	28.23%	28.47%	25.49%	30.50%	28.92%	26.37%	26.86%	25.47%	29.67%	29.25%
Long-term debt	19.77%	47.27%	45.67%	15.97%	28.32%	29.63%	29.91%	29.71%	29.44%	28.02%	28.46%	28.35%	28.46%
Deferred income taxes	14.93%	20.43%	13.92%	7.70%	8.81%	9.15%	9.10%	8.88%	8.64%	7.99%	7.93%	7.70%	7.53%
Operating leases	1.83%	1.65%	1.66%	0.79%	0.91%	0.96%	0.97%	0.97%	0.96%	0.91%	0.92%	0.92%	0.93%
Other liabilities, net	11.24%	15.74%	6.19%	4.38%	5.14%	5.27%	5.43%	5.36%	5.25%	5.03%	5.07%	5.14%	5.15%
Treasury stock, at cost	-11.49%	-18.46%	-1.69%	-6.84%	-8.99%	-10.55%	-11.69%	-12.58%	-13.37%	-13.41%	-14.35%	-14.95%	-15.60%
Retained Earnings	43.26%	52.03%	27.04%	16.02%	22.98%	28.27%	32.58%	36.32%	39.92%	41.93%	47.13%	51.04%	55.42%
Non controlling interest	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total equity	130.26%	173.06%	155.96%	81.41%	96.55%	103.44%	106.07%	106.85%	107.34%	103.18%	106.83%	107.96%	110.07%
Total Liabilities and Equity	204.93%	287.64%	251.39%	138.49%	168.21%	173.94%	181.98%	180.70%	177.99%	171.99%	174.68%	179.75%	181.39%

Discounted Cash Flow (DCF) and Economic Profit (EP) Valuation Models

CV Growth of NOPLAT	2.50%
CV Year ROIC	19.87%
WACC	10.05%
Cost of Equity	10.53%

DCF Model:										
Free Cash Flow (FCF)	7,805	5,930	5,321	5,112	5,259	5,434	5,938	5,821	5,997	6,032
Continuing Value (CV)										81,286
PV of FCF	7.092	4.896	3.992	3.484	3.257	3.058	3.036	2.705	2.532	34.319

Excess Cash	(437)
Restricted Cash	39
Investment in affiliate	78
Short term investment	60
Assets held for sale	58
Notes receivable	50
Other assets	557
Operating leases	(350)
Interest payable	(53)
Current portion LT Debt	(986)
LT debt	(4,228)
Derivatives	(561)
Other liabilities	(1,161)
ESOP	(565)

EP Model:										
Economic Profit (EP)	4,856	3,184	2,647	2,535	2,659	2,820	3,488	3,346	3,445	3,470
Continuing Value (CV)										45,938
PV of EP	4,412	2,628	1,986	1,728	1,647	1,587	1,784	1,555	1,455	19,395

Excess Cash	(437)
Restricted Cash	39
Investment in affiliate	78
Short term investment	60
Assets held for sale	58
Notes receivable	50
Other assets	557
Operating leases	(350)
Interest payable	(53)
Current portion LT Debt	(986)
LT debt	(4,228)
Derivatives	(561)
Other liabilities	(1,161)
ESOP	(565)

PV Operating Lease	
Derivatives	
Value of Equity	60,876
Shares Outstanding	238
Intrinsic Value of Last FYE	\$ 255.57
Implied Price as of Today	\$ 256.94

Dividend Discount Model (DDM) or Fundamental P/E Valuation Model

EPS	\$	26.62	\$	20.24	\$	18.26	\$	17.80	\$	18.37	\$	19.08	\$	21.80	\$	21.44	\$	21.94	\$	22.15
-----	----	-------	----	-------	----	-------	----	-------	----	-------	----	-------	----	-------	----	-------	----	-------	----	-------

CV growth of EPS	2.50%
CV Year ROE	17.73%
Cost of Equity	10.53%

P/E Multiple (CV Year)										10.70
EPS (CV Year)										\$ 22.15
Future Stock Price										\$ 236.98
Dividends Per Share	25.44	15.68	14.09	13.51	13.94	14.40	16.27	15.29	15.86	
Discounted Cash Flows	23.02	12.83	10.44	9.05	8.45	7.90	8.07	6.86	6.44	96.24875

Intrinsic Value as of Last FYE	\$	189.31
--------------------------------	----	--------

Implied Price as of Today	\$ 190.32
---------------------------	-----------

Pioneer Natural Resources

Relative Valuation Models

Source: FactSet Consensus Estimates

													LTM	2022E	2022E
Ticker	Company	EV(M)	Price	Shares Out (M)	EPS		P/E		EBITDAX		EV/EBITDAX		Debt/ Equity	FCF Yield	Div Yield
					2022E	2023E	2022E	2023E	2022E	2023E	2022E	2023E			
EOG	EOG Resources	52,687	\$133.69	586	\$14.62	\$15.19	9.14x	8.8x	15,259	15,888	3.45x	3.32x	31.6%	9.1%	6.1%
OXY	Occidental Petroleum	65,287	\$71.84	931	\$10.22	\$7.85	7.03x	9.15x	22,461	19,519	2.91x	3.34x	442.7%	19.3%	0.7%
FANG	Diamondback Energy	26,338	\$153.82	177	\$24.74	\$24.08	6.22x	6.39x	7,290	7,086	3.61x	3.72x	45.0%	15.6%	4.6%
DVN	Devon Energy	53,717	\$77.30	654	\$9.03	\$9.42	8.56x	8.21x	10,005	10,591	5.37x	5.07x	86.4%	0.9%	0.9%
CLR	Continental Resources	32,579	\$73.94	357	\$11.68	\$10.72	6.33x	6.9x	7,838	7,391	4.16x	4.41x	96.0%	15.6%	1.5%
MRO	Marathon Oil	23,199	\$30.93	677	\$4.71	\$4.09	6.57x	7.56x	5,954	5,735	3.9x	4.05x	46.0%	20.5%	1.0%
CHK	Chesapeake Energy	17,909	\$102.67	120	\$16.77	\$20.36	6.12x	5.04x	4,765	5,685	3.76x	3.15x	40.7%	17.0%	4.3%
HES	Hess Corporation	50,859	\$143.30	309	\$7.91	\$9.94	48.42x	44.42x	6,214	6,826	8.48x	7.45x	107.5%	4.6%	1.1%
CTRA	Coterra Energy	27,105	\$30.75	795	\$5.05	\$4.26	6.09x	7.22x	6,966	6,173	3.89x	4.39x	51.9%	15.7%	7.9%
EQT	EQT Corporation	21,239	\$40.75	367	\$4.06	\$9.18	10.04x	4.44x	4,084	7,401	5.2x	2.87x	51.8%	16.5%	1.3%
COP	ConocoPhillips	164,800	\$127.78	1,273	\$14.32	\$13.14	8.92x	9.72x	37,002	33,037	4.45x	4.99x	51.2%	12.3%	2.7%
					Average		7.5x	7.34x			4.07x	3.93x	55.62%	13.37%	3%

PXD Pioneer Natural Resource: 64,213 \$257.31 238 \$26.62 \$20.24 9.67x 12.71x 11,801 9,905 2.94x 3.13x 27.3% 11.4% 9.9%

Implied Relative Value:

P/E (EPS22)	\$ 199.71
P/E (EPS23)	\$ 148.60
EV/EBITDAX 22E	\$ 172.57
EV/EBITDAX 23E	\$ 148.07

Pioneer Natural Resources
Weighted Average Cost of Capital (WACC) Estimation

Cost of Equity:	
Risk-Free Rate	3.75%
Beta	1.28
Equity Risk Premium	5.30%
Cost of Equity	10.53%

ASSUMPTIONS:
10-year treasury
Average of β from Bloomberg Regression
Damodaran

Cost of Debt:	
Risk-Free Rate	3.75%
Implied Default Premium	2.24%
Pre-Tax Cost of Debt	5.99%
Marginal Tax Rate	22%
After-Tax Cost of Debt	4.67%

10-year treasury

Bloomberg 10-year PXD bond curve

Market Value of Common Equity:		MV Weights
Total Shares Outstanding	243	
Current Stock Price	\$257.31	
MV of Equity	62,496	91.83%
Market Value of Debt:		
Current Portion of LTD	986	
Long-Term Debt	4,228	
PV of Operating Leases	350	
MV of Total Debt	5,564	8.17%
Market Value of the Firm	68,060	100.00%

Estimated WACC	10.05%
----------------	--------

Pioneer Natural Resources
Key Management Ratios

Fiscal Years Ending Dec. 31	2019	2020	2021	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
Liquidity Ratios:													
Current ratio: [CA/CL]	1.06	1.26	1.52	0.73	1.14	1.22	1.24	1.29	1.36	1.39	1.48	1.45	1.50
Quick ratio: [(Cash+A/R)/CL]	0.81	1.03	1.36	0.55	0.96	1.03	1.08	1.13	1.18	1.22	1.30	1.30	1.35
Cash ratio: [Cash/CL]	0.31	0.70	0.94	0.18	0.58	0.60	0.72	0.75	0.77	0.81	0.87	0.93	0.98
Asset-Management Ratios:													
Operating asset turnover: [Operating revenue/Total assets]	0.21	0.15	0.28	0.41	0.33	0.31	0.29	0.29	0.30	0.31	0.30	0.29	0.29
Inventory turnover: [COGS/Avg. Inventory]	9.69	5.86	4.37	4.98	5.17	5.30	5.44	5.62	5.56	5.63	5.55	5.58	11.44
Accounts receivable turnover: Operating revenue/Avg. A/R]	0.29	(0.05)	0.31	0.78	0.63	0.56	0.53	0.54	0.53	0.57	0.56	0.56	1.13
Financial Leverage Ratios:													
Financial leverage: [Total debt/Total assets]	0.10	0.18	0.19	0.14	0.19	0.17	0.19	0.18	0.17	0.17	0.16	0.18	0.18
Debt to equity: [Total debt/Total equity]	0.15	0.30	0.30	0.24	0.33	0.29	0.33	0.31	0.28	0.29	0.27	0.30	0.29
Percentage of debt: [Total debt/Total debt+Equity]	0.13	0.23	0.23	0.19	0.25	0.22	0.25	0.24	0.22	0.22	0.21	0.23	0.23
Interest coverage: [EBIT/Interest expense]	69.74	54.84	74.89	119.19	79.33	88.10	76.63	81.38	92.44	94.69	98.20	86.04	85.74
Profitability Ratios:													
Return on equity (Net income/Beg. Equity)	8.05%	6.24%	-1.73%	9.27%	29.42%	21.46%	18.69%	17.59%	17.53%	17.56%	19.25%	18.09%	17.73%
Return on assets: [Net income/Beg. Assets]	4.22%	-1.05%	11.01%	17.23%	13.09%	11.07%	10.80%	10.55%	10.73%	12.07%	11.33%	11.29%	10.73%
Profit margin: [Net income/Operating revenue]	34.83%	-26.15%	29.46%	63.71%	61.43%	60.26%	59.36%	59.25%	59.23%	60.15%	59.59%	59.19%	58.74%
Payout Policy Ratios:													
Dividend Yield: [Dividends/EPS]	7.01%	-178.96%	78.54%	95.56%	77.47%	77.18%	75.91%	75.87%	75.48%	74.64%	71.31%	72.29%	70.68%
Total Payout ratio: [(Dividends + Repurchases)/Net income]	103.17%	-261.00%	87.96%	120.23%	83.11%	83.46%	82.37%	82.15%	81.55%	79.96%	76.73%	77.61%	75.96%

Pioneer Natural Resources

Effects of ESOP Exercise and Share Repurchases on Common Stock Account and Number of Shares Outstanding

Number of Options Outstanding	6
Average Time to Maturity (years):	3.00
Expected Annual Number of Options Exercised:	2.01

Cost of Equity:	10.53%
Current Stock Price:	\$257.31

Fiscal Years Ending Dec. 31	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
<i>all values in millions except price per share</i>										
Increase in Shares Outstanding	2.01	2.01	2.01							
Average Strike Price	\$ 113.76	\$ 113.76	\$ 113.76							
Increase in Common Stock Account	229	229	229							
Share Repurchases (\$)	1,564	271	271	271	271	271	271	271	271	271
Expected Price of Repurchased Shares:	\$ 237.21	\$ 262.20	\$ 289.82	\$ 320.35	\$ 354.10	\$ 391.40	\$ 432.63	\$ 478.20	\$ 528.57	\$ 584.25
Number of Shares Repurchased:	6.59	1.03	0.93	0.84	0.76	0.69	0.63	0.57	0.51	0.46
Shares Outstanding (beginning of the year)	243	238	237	236	235	235	234	233	233	232
Plus: Shares Issued Through ESOP	2	2	2	-	-	-	-	-	-	-
Less: Shares Repurchased in Treasury	6.59	1.03	0.93	0.84	0.76	0.69	0.63	0.57	0.51	0.46
Shares Outstanding (end of the year)	238	237	236	235	235	234	233	233	232	232

Pioneer Natural Resources
Valuation of Options Granted under ESOP

Current Stock Price	\$257.31
Risk Free Rate	3.75%
Current Dividend Yield	9.89%
Annualized St. Dev. of Stock Returns	40.00%

Range of Outstanding Options	Number of Shares	Average Exercise Price	Average Remaining Life (yrs)	B-S Option Price	Value of Options Granted
2006 Long Term Incentive Plan	6	113.76	3.00	\$ 98.75	\$ 596
Total	6	\$ 113.76	3.00	\$ 157.92	\$ 596

Pioneer Natural Resources
Present Value of Operating Lease Obligations

Fiscal Years Ending Dec. 31	2012	2013	2014	2015	2016	2017	2018
Year 1	24.0	25.0	30.0	24.0	26.0	27.0	234.0
Year 2	17.0	18.0	22.0	23.0	24.0	42.0	169.0
Year 3	16.0	16.0	20.0	21.0	23.0	53.0	97.0
Year 4	14.0	16.0	19.0	21.0	18.0	40.0	66.0
Year 5	14.0	15.0	19.0	17.0	4.0	37.0	40.0
Thereafter	37.0	27.0	27.0	15.0	11.0	680.0	647.0
Total Minimum Payments	122.0	117.0	137.0	121.0	106.0	879.0	1,253.0
Less: Cumulative Interest	20.9	18.4	20.7	17.4	13.8	364.2	365.3
PV of Minimum Payments	101.1	98.6	116.3	103.6	92.2	514.8	887.7
		0.05	0.04	0.06	0.06	0.01	0.03
Implied Interest in Year 1 Payment		5.1	4.9	5.8	5.2	4.6	25.7
Pre-Tax Cost of Debt	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Years Implied by Year 6 Payment	2.6	1.8	1.4	1.0	2.8	18.4	16.2
Expected Obligation in Year 6 & Beyond	14.0	15.0	19.0	15.0	4.0	37.0	40.0
Present Value of Lease Payments							
PV of Year 1	22.9	23.8	28.6	22.9	24.8	25.7	222.9
PV of Year 2	15.4	16.3	20.0	20.9	21.8	38.1	153.3
PV of Year 3	13.8	13.8	17.3	18.1	19.9	45.8	83.8
PV of Year 4	11.5	13.2	15.6	17.3	14.8	32.9	54.3
PV of Year 5	11.0	11.8	14.9	13.3	3.1	29.0	31.3
PV of 6 & beyond	26.5	19.8	19.9	11.2	7.9	343.3	342.1
Capitalized PV of Payments	101.1	98.6	116.3	103.6	92.2	514.8	887.7

ERP	Beta							
	256.94	0.98	1.08	1.18	1.28	1.38	1.48	1.58
	5.00%	333.49	309.10	288.00	269.58	253.35	238.93	226.04
	5.10%	328.42	304.29	283.43	265.23	249.20	234.97	222.25
	5.20%	323.49	299.62	279.01	261.02	245.18	231.13	218.58
	5.30%	318.71	295.10	274.71	256.94	241.30	227.42	215.03
	5.40%	314.06	290.70	270.55	252.98	237.52	223.82	211.58
	5.50%	309.55	286.44	266.51	249.14	233.87	220.33	208.25
	5.60%	305.17	282.30	262.58	245.41	230.32	216.95	205.01

CV G NOPLAT	Risk Free Rate							
	256.94	3.00%	3.25%	3.50%	3.75%	4.00%	4.50%	5.00%
	1.75%	272.85	264.63	256.87	249.55	242.61	229.81	218.24
	2.00%	275.95	267.43	259.42	251.86	244.71	231.54	219.68
	2.25%	279.27	270.43	262.13	254.32	246.94	233.39	221.21
	2.50%	282.83	273.64	265.03	256.94	249.32	235.34	222.82
	2.75%	286.66	277.09	268.14	259.74	251.85	237.41	224.53
	3.00%	290.79	280.79	271.47	262.74	254.55	239.62	226.34
	3.25%	295.25	284.79	275.05	265.96	257.45	241.98	228.27

CV ROIC	WACC							
	256.94	9.30%	9.55%	9.80%	10.05%	10.25%	10.50%	10.75%
	16.87%	283.16	272.54	262.65	253.40	246.43	238.21	230.48
	17.87%	284.78	274.08	264.10	254.78	247.75	239.46	231.67
	18.87%	286.24	275.45	265.40	256.01	248.93	240.58	232.73
	19.87%	287.54	276.68	266.56	257.11	249.99	241.59	233.69
	20.87%	288.72	277.80	267.62	258.11	250.95	242.50	234.55
	21.87%	289.80	278.81	268.58	259.02	251.82	243.32	235.34
	22.87%	290.77	279.74	269.45	259.85	252.61	244.08	236.06

Oil/Gas Exp. % Prod.	Oil Production/Reserve Ratio 2022-2031E							
	256.94	10.34%	11.34%	12.34%	13.34%	14.34%	15.34%	16.34%
	0.48%	227.96	250.35	272.74	295.14	317.53	339.92	362.32
	0.58%	216.57	238.51	260.45	282.39	304.33	326.26	348.20
	0.68%	205.19	226.68	248.17	269.65	291.14	312.63	334.11
	0.78%	193.83	214.87	235.90	256.94	277.97	299.01	320.04
	0.88%	182.49	203.08	223.66	244.24	264.82	285.41	305.99
	0.98%	171.17	191.30	211.43	231.56	251.70	271.83	291.96
	1.08%	159.86	179.54	199.22	218.90	238.59	258.27	277.95

Depreciation Rate	CapEx Growth							
	256.94	2.00%	3.00%	4.00%	5.00%	6.00%	7.00%	8.00%
	8.47%	275.03	270.49	265.74	260.77	255.57	250.13	244.44
	9.47%	273.82	269.14	264.25	259.13	253.76	248.15	242.28
	10.47%	272.97	268.17	263.13	257.86	252.35	246.57	240.53
	11.47%	272.44	267.51	262.35	256.94	251.27	245.34	239.13
	12.47%	272.19	267.14	261.85	256.30	250.50	244.41	238.05
	13.47%	272.17	267.00	261.59	255.92	249.98	243.75	237.23
	14.47%	272.34	267.07	261.54	255.75	249.68	243.32	236.65

Price of Gas (Boe)	NGL Spread							
	256.94	13.00%	14.00%	15.00%	16.00%	17.00%	18.00%	19.00%
	\$70.00	234.60	235.56	236.52	237.49	238.45	239.42	240.38
	\$80.00	241.66	242.63	243.59	244.56	245.53	246.50	247.47
	\$90.00	248.77	249.75	250.72	251.69	252.66	253.64	254.61
	\$97.31	254.01	254.99	255.96	256.94	257.91	258.89	259.87
	\$100.00	255.95	256.92	257.90	258.88	259.85	260.83	261.81
	\$110.00	263.17	264.15	265.13	266.12	267.10	268.08	269.06
	\$120.00	270.46	271.44	272.43	273.41	274.40	275.38	276.37