

Investor Presentation

March 2021

FORWARD-LOOKING STATEMENTS

The information in this presentation and in any oral statements made in connection herewith contains forward-looking statements that involve risks and uncertainties. When used in or in connection with this document, the words “believes,” “plans,” “expects,” “anticipates,” “forecasts,” “intends,” “continue,” “may,” “will,” “could,” “should,” “future,” “potential,” “estimate” or the negative of such terms and similar expressions as they relate to HighPeak Energy, Inc. (“HighPeak Energy” or the “Company”) are intended to identify forward-looking statements, which are generally not historical in nature. The forward-looking statements are based on the Company’s current expectations, assumptions, estimates and projections about the Company and the industry in which the Company operates. Although the Company believes that the expectations and assumptions reflected in the forward-looking statements are reasonable as and when made, they involve risks and uncertainties that are difficult to predict and, in many cases, beyond the Company’s control.

These risks and uncertainties include, among other things, volatility of commodity prices, product supply and demand, the impact of a widespread outbreak of an illness, such as the coronavirus disease 2019 (“COVID-19”) pandemic, on global and U.S. economic activity, competition, the ability to obtain environmental and other permits and the timing thereof, other government regulation or action, the ability to obtain approvals from third parties and negotiate agreements with third parties on mutually acceptable terms, litigation, the costs and results of drilling and operations, availability of equipment, services, resources and personnel required to perform the Company’s drilling and operating activities, access to and availability of transportation, processing, fractionation, refining and storage facilities, HighPeak Energy’s ability to replace reserves, implement its business plans or complete its development activities as scheduled, access to and cost of capital, the financial strength of counterparties to any credit facility and derivative contracts entered into by HighPeak Energy, if any, and purchasers of HighPeak Energy’s oil, NGL and gas production, uncertainties about estimates of reserves, identification of drilling locations and the ability to add proved reserves in the future, the assumptions underlying forecasts, including forecasts of production, expenses, cash flow from sales of oil and gas and tax rates, quality of technical data, environmental and weather risks, including the possible impacts of climate change, cybersecurity risks and acts of war or terrorism. These and other risks are described in the Company’s combined Registration Statement on Form S-4 and Form S-1, declared effective by the Securities and Exchange Commission (the “SEC”) on August 7, 2020 and initially filed with the SEC on December 2, 2019 (File No. 333-235313) (the “Registration Statement”), and in its other filings with the SEC. In addition, the Company may be subject to currently unforeseen risks that may have a materially adverse effect on it. Accordingly, no assurances can be given that the actual events and results will not be materially different than the anticipated results described in the forward-looking statements. See “Risk Factors,” “Business,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Quantitative and Qualitative Disclosures About Market Risk” in the Registration Statement for a description of various factors that could materially affect the ability of HighPeak Energy to achieve the anticipated results described in the forward-looking statements. Readers are cautioned not to place undue reliance on forward-looking statements, which speak only as of the date hereof. The Company undertakes no duty to publicly update these statements except as required by law.

NO OFFER OR SOLICITATION

This presentation is for informational purposes only and shall not constitute an offer to sell or the solicitation of an offer to buy any securities of the Company or its affiliates, nor shall there be any sale of securities in any jurisdiction in which the offer, solicitation or sale would be unlawful prior to the registration or qualification under the securities laws of any such jurisdiction. This presentation should not be considered as a recommendation that any investor should subscribe for or purchase any securities. No offer of securities shall be made except by means of separate and distinct documentation in the form of a private placement memoranda, offering circular, subscription agreement or other equivalent document (“offering document”) and any decision to purchase or subscribe for any securities pursuant to such offer should be made solely on the basis of such offering document and not this presentation. This presentation may not be relied upon for the entering into of any transaction.

RESERVE INFORMATION

Reserve engineering is a process of estimating underground accumulations of hydrocarbons that cannot be measured in an exact way. The accuracy of any reserve estimate depends on the quality of available data, the interpretation of such data and price and cost assumptions made by reserve engineers. Reserves estimates included herein may not be indicative of the level of reserves or PV-10 value of oil and natural gas production in the future, as they are based on prices significantly higher than current commodity prices. In addition, the results of drilling, testing and production activities may justify revisions of estimates that were made previously. If significant, such revisions could impact HighPeak’s strategy and change the schedule of any further production and development drilling. Accordingly, reserve estimates may differ significantly from the quantities of oil and natural gas that are ultimately recovered.

Unless otherwise indicated, reserve estimates shown herein are based on a reserve report as of December 31, 2020 prepared by Cawley, Gillespie & Associates, Inc., the Company’s independent reserve engineering firm, and were prepared in accordance with current SEC rules and regulations regarding reserve reporting, except that commodity prices were based on specified management parameters, referred to herein as “flat” pricing, rather than SEC pricing guidelines. The flat prices used in preparing the reserve report were \$63.00 per Bbl of oil and \$3.00 per MMBtu of natural gas, as compared to weighted average adjusted realized prices of \$39.57 per Bbl for oil and \$1.985 per MMBtu that would have been used if the reserve report had been prepared using SEC pricing guidelines. HighPeak believes that the use of flat pricing provides useful information about its reserves, as the flat prices reflect what management believes to be reasonable assumptions as to future commodity prices over the productive lives of its properties. However, HighPeak cautions you that the flat pricing used in preparing the reserve report is not necessarily a projection of future oil and natural gas prices, and should be carefully considered in addition to, and not as a substitute for, SEC prices, when considering HighPeak’s oil, natural gas and NGL reserves.

Estimated Ultimate Recoveries, or “EURs,” refers to estimates of the sum of total gross remaining proved reserves per well as of a given date and cumulative production prior to such given date for developed wells. Original oil in place, or “OOIP” refers to gross volumes of hydrocarbons without giving effect to recovery efficiency or the economic viability of production. Neither EURs nor OOIP constitute or represent reserves as defined by the SEC and neither is intended to be representative of anticipated future well results or aggregate production volumes. Each such metric is inherently more uncertain than proved reserve estimates prepared in accordance with SEC guidelines.

USE OF PROJECTIONS

This presentation contains projections for HighPeak, including with respect to its operating margin, capital expenditures, drilling pace, average lateral lengths, production, operating expenses and well results. HighPeak’s independent auditors have not audited, reviewed, compiled, or performed any procedures with respect to the projections for the purpose of their inclusion in this presentation, and accordingly, have not expressed an opinion or provided any other form of assurance with respect thereto for the purpose of this presentation. These projections are for illustrative purposes only and should not be relied upon as being necessary indicative of future results. The assumptions and estimates underlying the projected information are inherently uncertain and are subject to a wide variety of significant business, economic and competitive risks and uncertainties that could cause actual results to differ materially from those contained in the projected information. Even if HighPeak’s assumptions and estimates are correct, projections are inherently uncertain due to a number of factors outside its control. Accordingly, there can be no assurance that the projected results are indicative of HighPeak’s future performance or that actual results will not differ materially from those presented in the projected information. Inclusion of the projected information in this presentation should not be regarded as a representation by any person that the results contained in the projected information will be achieved.

USE OF NON-GAAP FINANCIAL MEASURES

This presentation includes non-GAAP financial measures, including EBITDAX, operating margin and PV-10. HighPeak believes these non-GAAP measures are useful because they allow HighPeak to more effectively evaluate its operating performance and compare the results of its operations from period to period and against its peers without regard to financing methods, capital structure or tax status. HighPeak does not consider these non-GAAP measures in isolation or as alternatives to similar financial measures determined in accordance with GAAP. HighPeak's computations of these non-GAAP financial measures may not be comparable to other similarly titled measures of other companies.

HighPeak defines EBITDAX as net income before interest expense, income taxes, depreciation, depletion and amortization, exploration and other expenses, impairment and abandonment expenses, non-cash gains or losses on derivatives, stock-based compensation, gain on exchange of debt, gains and losses from the sale of assets, transaction costs and nonrecurring workforce reduction severance payments. HighPeak's management believes EBITDAX is useful as it allows them to more effectively evaluate HighPeak's operating performance and compare the results of its operations from period to period and against its peers without regard to financing methods or capital structure. HighPeak excludes the items listed above from net income in arriving at EBITDAX because these amounts can vary substantially from company to company within the industry depending upon accounting methods and book values of assets, capital structures and the method by which the assets were acquired. HighPeak also presented EBITDAX on an "annualized" basis, which represents EBITDAX for a fiscal quarter annualized for a 12-month period as if EBITDAX for each fiscal quarter in such period was equal to the quarter specified. HighPeak defines operating margin as realized price less lease operating expenses, gathering, processing and transportation expenses, production taxes and interest, on a per-Boe basis. HighPeak defines PV-10 as the present value of estimated future net revenues to be generated from the production of proved reserves, without giving effect to non-property related expenses, discounted at 10% per year before income taxes. For reconciliations of each such non-GAAP measure as presented herein to its most comparable measure prepared in accordance with GAAP, see the Appendix to this presentation.

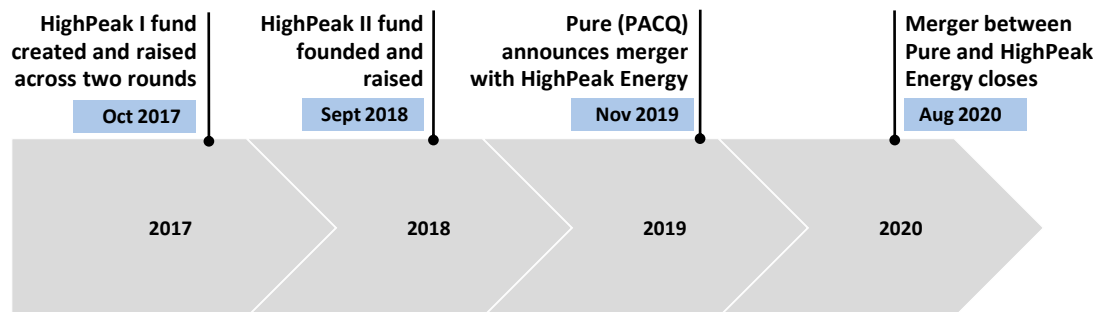
INDUSTRY AND MARKET DATA

This presentation has been prepared by HighPeak and includes market data and other statistical information from sources believed by HighPeak to be reliable, including independent industry publications, governmental publications or other published independent sources. Some data is also based on HighPeak's good faith estimates, which are derived from its review of internal sources as well as the independent sources described above. Although HighPeak believes these sources are reliable, they have not independently verified the information and cannot guarantee its accuracy and completeness.

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- Starting in 2017, HighPeak acreage was assembled through HighPeak I fund and HighPeak II fund investments over a period of ~3 years
 - Capital was contributed by management and investors to acquire HighPeak’s current Eastern Howard county position in the Midland Basin
- Pure Acquisition Corp. (“Pure”) SPAC IPO’d in April 2018 and was founded by Jack Hightower; Pure evaluated numerous business combinations and found HighPeak’s assets to be the most competitive
- Pure De-SPAC transacted to take public the HighPeak assets in August 2020 with further concurrent investment from management
- Today’s public float consists of a diverse group of original SPAC investors, institutional investors and other high-net-worth investors
 - Management and beneficially controlled entities own ~90% of shares outstanding ⁽¹⁾



Total HighPeak business capital contributed to date: ~\$650 MM

(1) As disclosed in S-1 filed 11/9/20.

Key Statistics

- **Market cap** ~\$1.2 billion (as of Mar. 1, 2021)
- **Production** Current production of approximately 7.8 MBoe/d ⁽¹⁾
- **Acres** ~33,000 and ~18,000 net acres in Flat Top and Signal Peak areas located in the core of the Northern Midland Basin, respectively
 - ~93% operated with average operated WI / GNRI of ~84% and 75%
- **Well count** 34 operated horizontal wells completed or in progress at Mar. 15; 31 operated legacy vertical wells
- **Proved Developed PV-10** ~\$292 MM (YE 2020); ~10.8 MMBoe net reserves ⁽²⁾

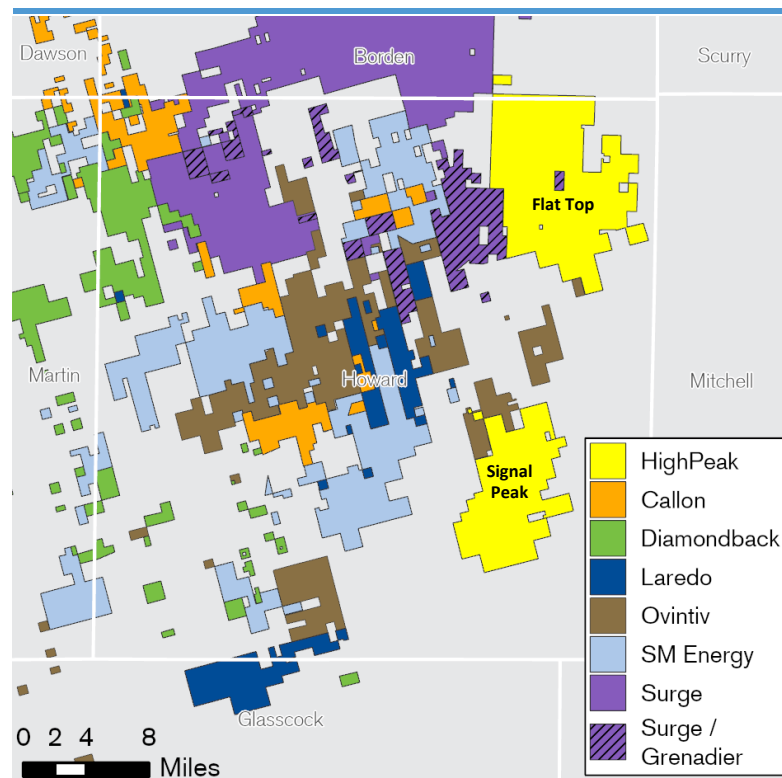
Focus on Production Growth and Operating Margins

- Significant production growth expected to continue as new wells come online; current production has grown to approximately 7.8 MBoe/d from 3.3 MBoe/d in 4Q20 ⁽¹⁾
- Industry-leading all-in-cost and full cycle economics with expected 2021E EBITDA margins of \$41–\$46/Boe ⁽³⁾

Differentiated Financial Strategy

- Company has no debt outstanding and \$20 million in cash on the balance sheet as of 12/31/20
- Commitment to low leverage under go-forward business plan
- Focus on maintaining low cost structure by aggressively managing DCE&F, LOE and G&A
- Actively evaluating hedge levels to manage price risk and protect cash flow & capital budget plans

Acres Position and Selected Offset Operators



2020 YE Reserves	PD ⁽⁴⁾	PUD	Total
Net Reserves (Mmboe) ⁽²⁾	10.8	12.6	23.4
PV-10 (\$MM) ⁽²⁾	\$292	\$198	\$490
% Liquids	94%	94%	94%

Source: Acres per Enverus.

⁽¹⁾ Current production represents approximate daily production as of mid-March 2021.

⁽²⁾ Reserves per HighPeak's year-end 2020 third-party reserve report prepared by Cawley Gillespie & Associates ("CGA"); Assumes effective date of January 2021; Based on flat \$63.00/Bbl and \$3.00/MMBtu as adjusted for differentials.

⁽³⁾ Based on flat pricing of \$63.00/Bbl and \$3.00/MMBtu as adjusted for differentials under a one-rig program with completed SWD infrastructure buildout.

⁽⁴⁾ As of YE 2020, represents 15 PDP wells and 9 PDNP wells where the 9 PDNP wells forecasted to be online by the end of January 2021.

CGA YEAR-END 2020 PROVED RESERVES

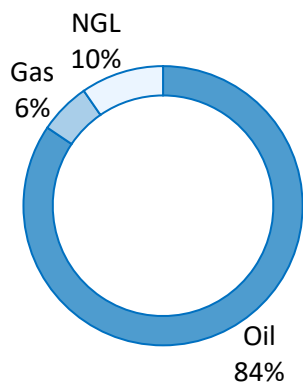
Flat \$63.00/Bbl and \$3.00/MMBtu



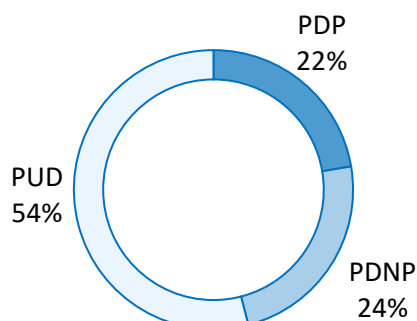
CGA Year-End 2020 Proved Reserves ⁽¹⁾

Reserve Category	Net Proved Reserves				% of Total	% Liquids	PV-10 (\$MM)
	Oil (MBbl)	Gas (MMcf)	NGL (MBbl)	Total (MBoe)			
Proved Developed Producing (PDP)	4,472	1,863	468	5,250	22%	94%	\$135
Proved Developed Non-Producing (PDNP)	4,663	1,981	536	5,530	24%	94%	\$157
Total Proved Developed Reserves	9,136	3,844	1,004	10,780	46%	94%	\$292
Proved Undeveloped (PUD)	10,631	4,524	1,246	12,631	54%	94%	\$198
Total Proved Reserves	19,766	8,368	2,250	23,411	100%	94%	\$490

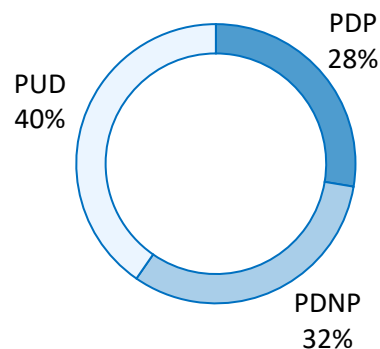
Net Reserves by Commodity



Net Reserves by Category



PV-10 by Category



By end of March 2021, substantially all YE 2020 PDNP will have transitioned to PDP

(1) Reserves per HighPeak's year-end 2020 third-party reserve report prepared by Cawley Gillespie & Associates ("CGA"); Assumes effective date of January 2021; Based on flat \$63.00/Bbl and \$3.00/MMBtu as adjusted for differentials.

OPERATIONAL UPDATE

Horizontal Wells @ Flat Top

Overview

- Statistics
 - Well lengths ranging from ~8,500 to over 15,000'
 - Horizontal Ellenburger SWD with high volume injection capacity
- Producing wells
 - 12 wells (9 WCA, 3 LS)
- Flowback
 - 12 wells (7 WCA, 5 LS)
- In Progress
 - 7 wells (6 WCA, 1 LS)



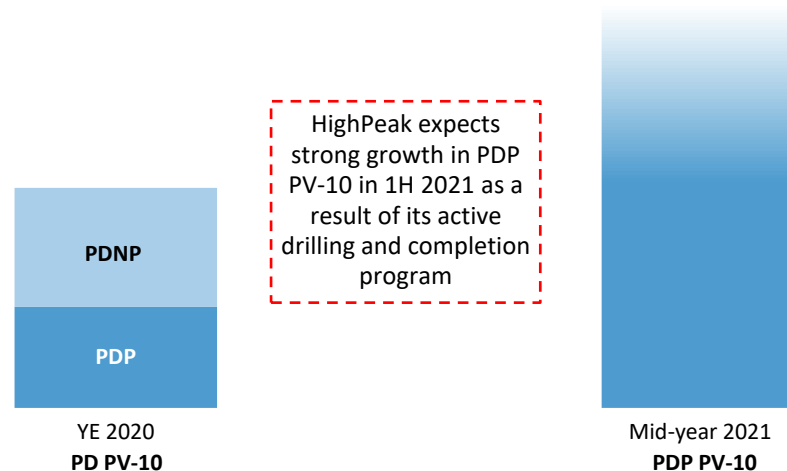
CURRENT CAPITALIZATION AND GUIDANCE



Current Capitalization

<i>(\$ in millions)</i>	As Reported 12/31/2020
Cash and cash equivalents	\$20
Revolving credit facility	--
Total debt	--
Market value of equity as of 03/01/2021	\$1,214
Total capitalization (market)	\$1,214
Borrowing base	\$50
Elected commitments ⁽¹⁾	\$50
Liquidity ⁽²⁾	\$70
Operating statistics:	
Proved reserves (Mmboe) ⁽³⁾	23.4
Current production (Mboe/d) ⁽⁴⁾	7.8
1P PV-10 (\$MM) ⁽³⁾	\$490
PD PV-10 (\$MM) ⁽³⁾	\$292

Near-Term PDP Reserve Growth ⁽³⁾



(\$ in millions)

2021 Guidance - One Rig Program

Capital Expenditures, D,C,E&F	\$115 – \$125
Capital Expenditures, Land/Infra/Water	20 – 25
Capital Expenditures, Total	\$135 – \$150
Gross Wells Drilled	20–24
Average Gross Lat. Length	11,500'-12,000'
Average Production (MBoe/d)	10.5–12
Exit Production (MBoe/d)	12–14

Source: Company filings and FactSet as of 3/15/21.

Note: Balance sheet represents amounts as-filed 12/31/20.

(1) Revolving credit facility amendment announced 3/15/21 with \$50 MM borrowing base.

(2) Liquidity defined as total commitments less RBL borrowings less letters of credit plus cash.

(3) Reserves per HighPeak's year-end 2020 third-party reserve report prepared by Cawley Gillespie & Associates ("CGA"); Assumes effective date of January 2021; Based on flat \$63.00/Bbl and \$3.00/MMBtu as adjusted for differentials.

(4) Current production represents approximate daily production as of mid-March 2021.

EVOLUTION OF DEVELOPMENT IN HOWARD COUNTY



Howard County is one of the most active areas of the prolific Permian Basin with 19 rigs currently running and nearly 2,000 horizontal wells drilled to date

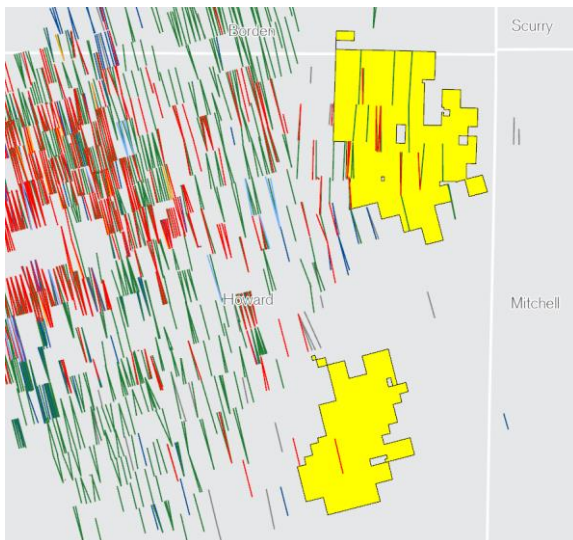
2016 Sticks

HZ Wells to Date: 176

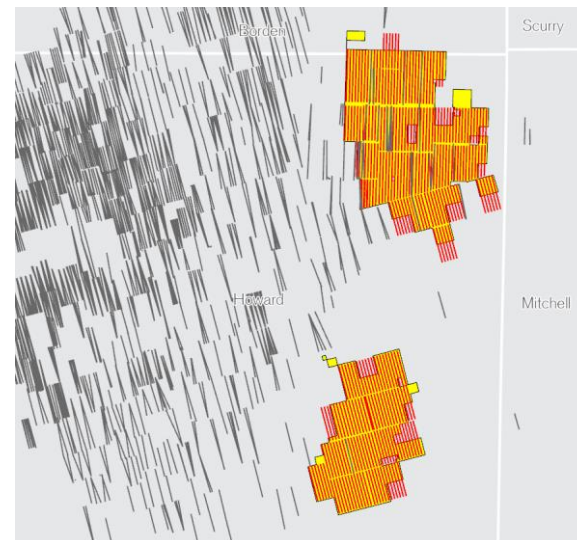


2020 Sticks

HZ Wells to Date: 1,998



2021 and Beyond



Early Development

Next Stage Development

Future Development

Legend

- HighPeak Acreage
- Middle Spbry
- Lower Spbry
- Jo Mill
- Dean
- Wolfcamp A
- Other ⁽¹⁾
- Wolfcamp B

Legend

- HighPeak Acreage
- PDP
- Locations

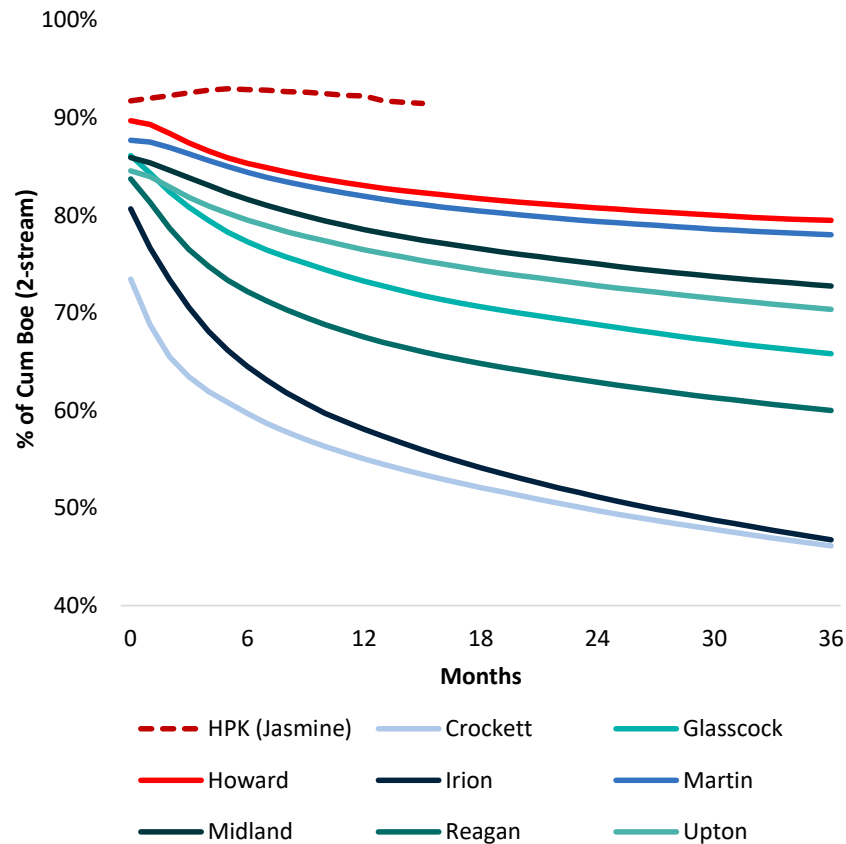
(1) "Other" includes 14 Wolfcamp D wells.

HOWARD COUNTY IS THE GROWTH ENGINE OF THE PERMIAN

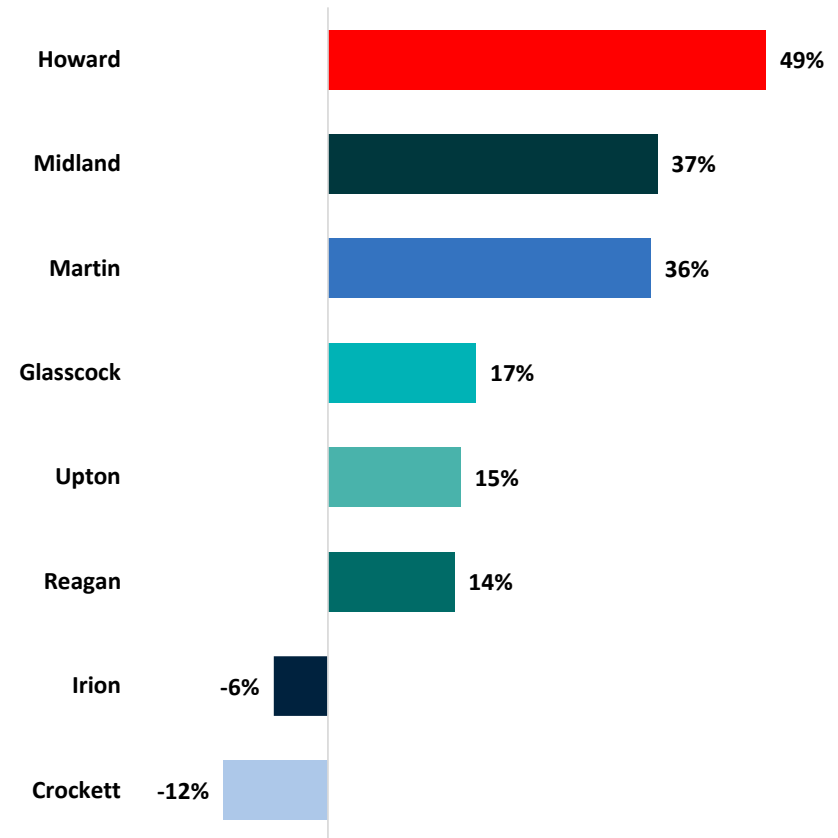


Howard County production mix has the highest oil percentage and margins across the Midland Basin (ie. best economics) and has seen the most rapid growth in oil volumes of all the major Midland Basin Counties

Howard County: Highest Oil Content Drives Value



Midland Basin Oil Production 5 yr CAGR by County ⁽¹⁾



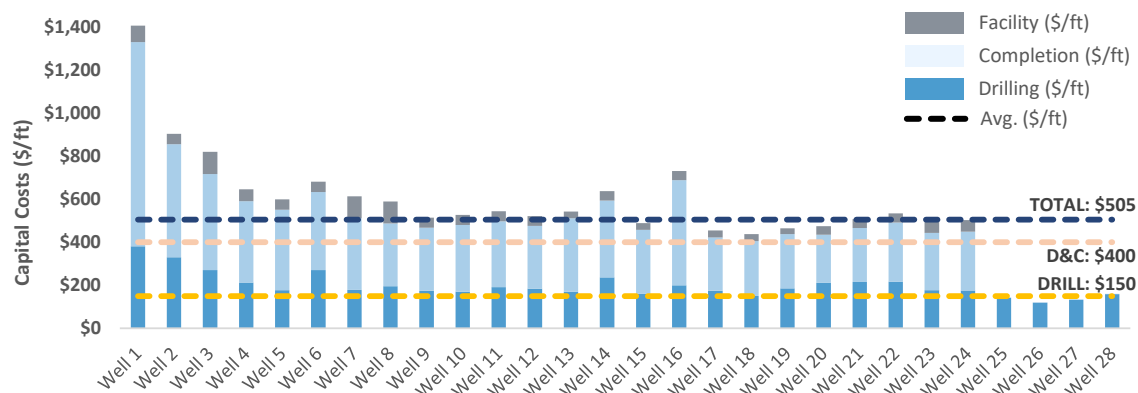
PEER-LEADING CAPITAL EFFICIENCY AND MARGINS



Capital Efficiency

- Continuous capital improvement
 - Pad development
 - Longer laterals
 - Service company relationships
 - Ongoing operational improvements

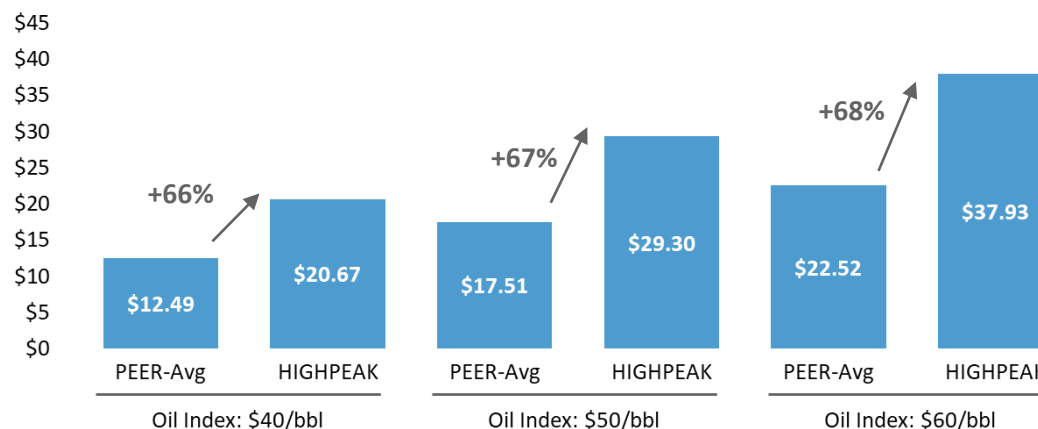
Flat Top Capital Efficiency Through 28 Wells Drilled (D,C,E & F) ⁽¹⁾



Operating Margin

- High oil cuts
- Attractive differentials
- Commitment to conservative interest expense burden
- Low failure rate (zero HighPeak originated ESP failures to date) ⁽³⁾
- Water infrastructure including high-volume horizontal SWD

4Q 2020 Operating Margin (\$/Boe) ⁽²⁾



(1) Wells #25–28 are based on field estimates and are not included in cost and average. Average represents Total Well Cost = \$505/ft, including Drilling @ \$150/ft, Completion @ \$250/ft and Equipping + Facilities @ \$105/ft.

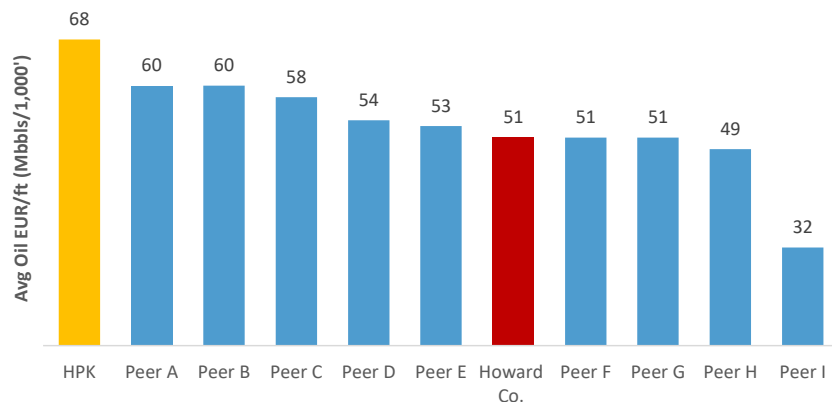
(2) PEER-Avg includes CDEV, CPE, ESTE, LPI, MTD, SM and XEC. Operating margin defined as realized price less LOE, less GP&T, less cash G&A, less production taxes, and less interest (\$/Boe). Realized price calculated as total revenue benchmarked at 4Q 2020 average NYMEX strip price less differential. Applied 4Q 2020 production split and operating expenses at \$40/Bbl, \$50/Bbl and \$60/Bbl oil assuming 36% of oil price for NGLs and flat \$3.00/Mcf gas.

(3) HighPeak has had 1 ESP failure to date attributable to a OEM manufacturer issue which has been remediated.

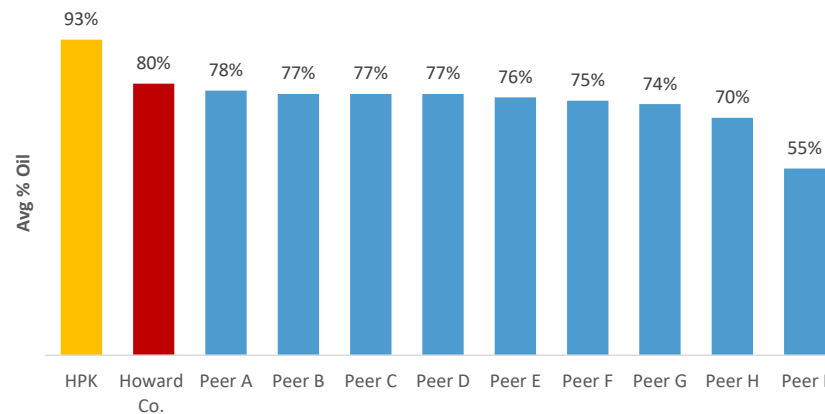
HISTORICAL MIDLAND BASIN PEER BENCHMARKING: ENVERUS DATA



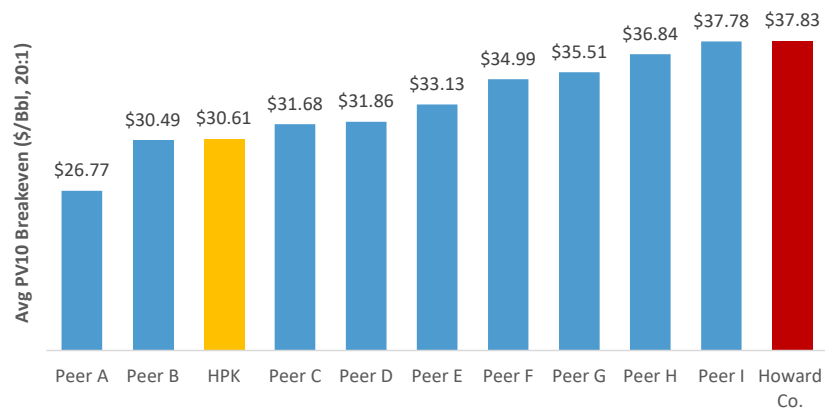
Oil EUR/ft (MBbls/1000')



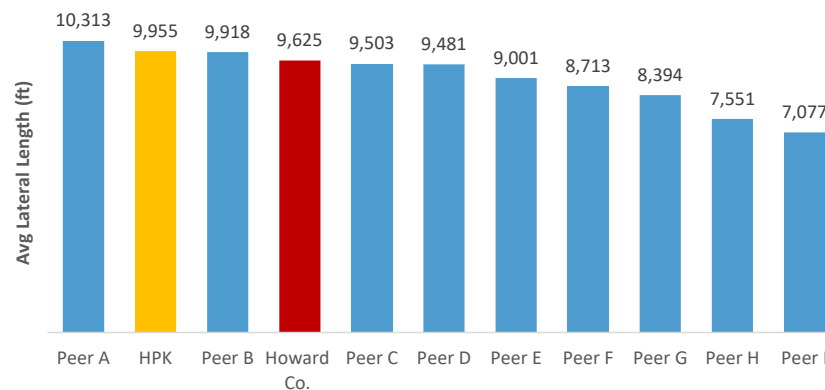
Average % Oil



Average Breakeven (\$/Bbl, 20:1)



Average Lateral Length (ft)



Source: Enverus.

Note: Dataset includes all horizontal Midland Basin wells by operator put on production after 1/1/2017; HPK wells include all wells with greater than 6 months production; Howard County refers to all horizontal wells in Howard County put on production after 1/1/2017. Selected peer set includes: APA, CPE, CrownRock, DoublePoint, Endeavor, FANG, LPI, OVV and SM.

EASTERN HOWARD COUNTY... THE NEXT BIG OIL PLAY



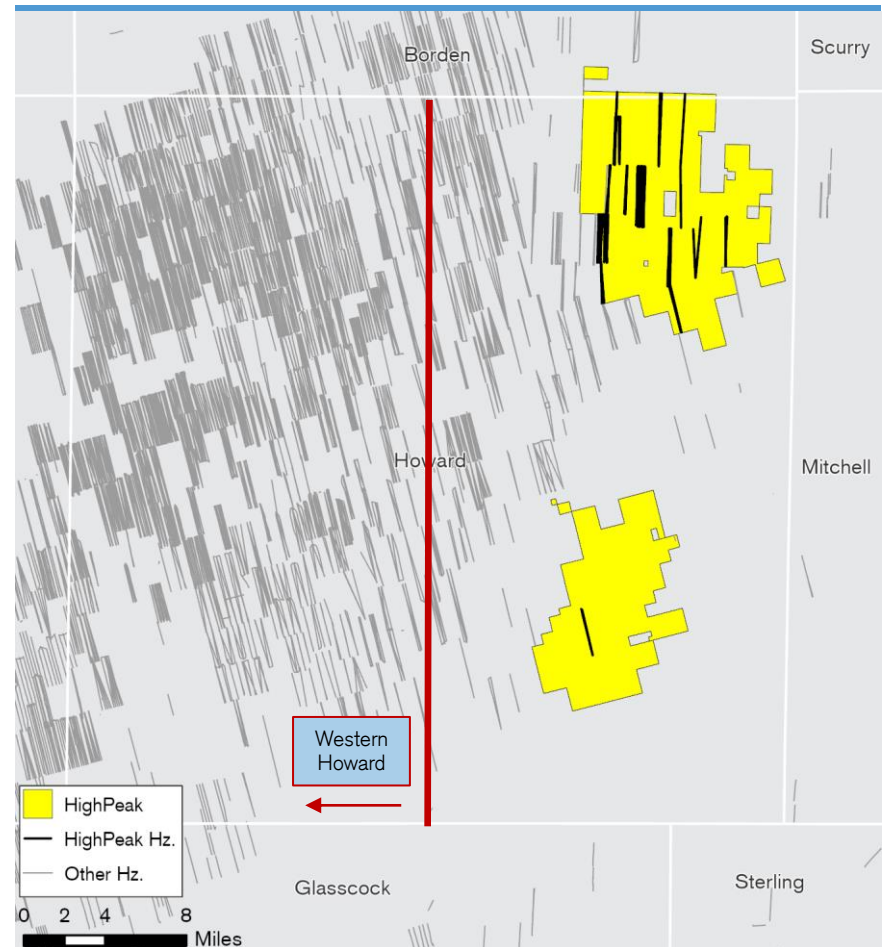
Eastern Howard County projected wells compare favorably with Western Howard County wells

Western vs. Eastern Howard County (Wolfcamp A – 10,000')

	Western Howard	Eastern Howard	HighPeak Energy
EUR (MBbls/1,000') ⁽¹⁾	58	62	68
Avg. Net Thickness	200' – 300'	200' – 250'	
Avg. Net to Gross	~82%	~89%	
% Developed	~32%	~8%	
% Oil	71%	85-90%	
Total Well Cost (\$/ft)	\$573/ft	\$649/ft	\$530/ft ⁽²⁾
NPV/Well (\$MM) ⁽³⁾	\$9.4mm	\$8.0mm	\$10.6mm
Avg. Breakeven (\$/Bbl, 20:1) ⁽³⁾	\$33/Bbl	\$36/Bbl	\$28/Bbl

HighPeak planned average lateral length of 12,500' in the WCA has a projected per well NPV of \$13.6mm ⁽⁴⁾

Howard County Map



Source: Enverus.

(1) WCA average for 2017-2020, Eastern Howard results based on HighPeak performance for wells with greater than 6 months of production data.

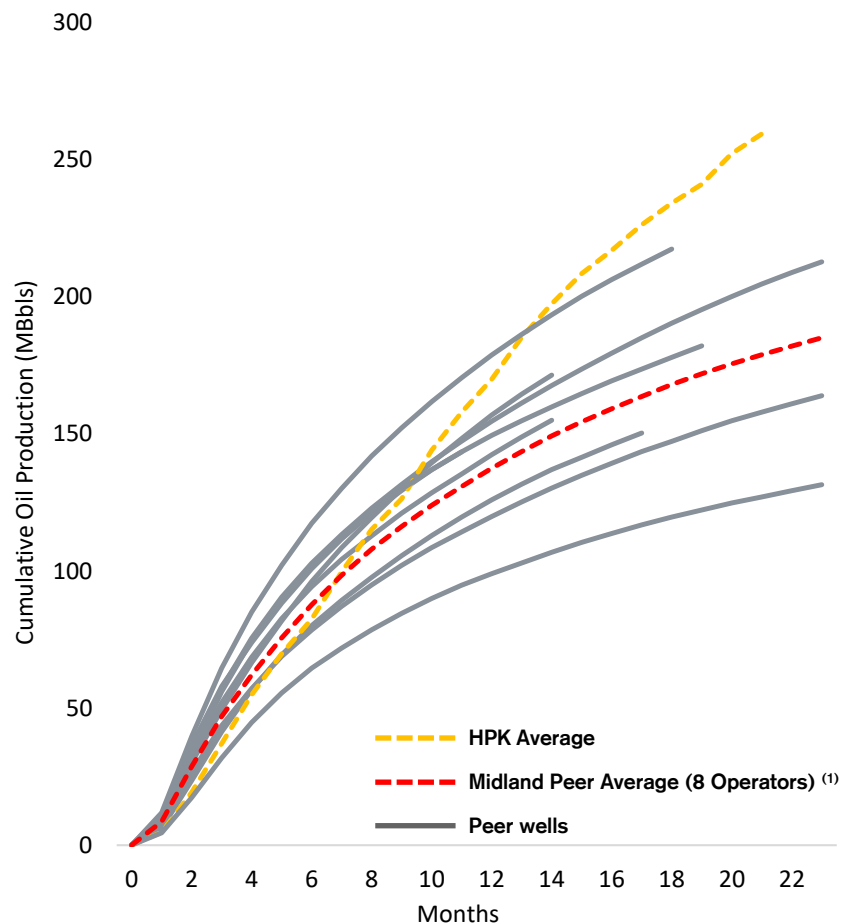
(2) Represents HighPeak's average development costs for a 10,000' lateral length well.

(3) Based on average Hz WCA well from 2017-2020 using stated D&C costs for a 10,000' lateral. Eastern Howard based on HighPeak WCA YE20 audited type curve. NPV assumes \$63/Bbl (WTI) & \$3.00/Mcf (Henry Hub).

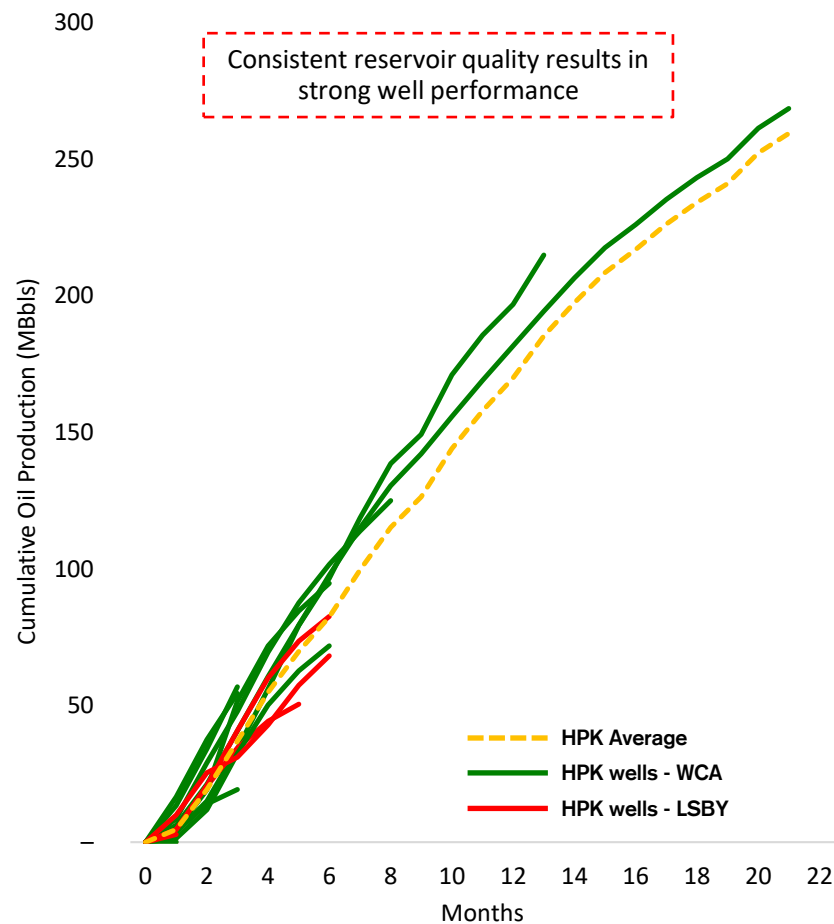
(4) Based on average CGA provided HighPeak type curve for the Wolfcamp A.

HighPeak well results outperform peers in the Midland Basin

HighPeak Well Performance vs. Midland Peers ⁽¹⁾



HighPeak Well Performance (First 18 Wells at Flat Top) ⁽²⁾



Source: Enverus and company provided production data.

(1) Dataset includes all Midland Basin Wolfcamp A and Lower Spraberry wells with first production after 1/1/2017. Peers include APA, CPE, CrownRock, FANG, Endeavor, LPI, OVV, and SM.

(2) Does not include the Cole Unit A2H due to mechanical issues.

CGA TYPE CURVE ECONOMICS

WCA and LSBY type curves



Overview

- Wolfcamp A and Lower Spraberry type curve wells selected from geologically similar region
- HighPeak has directly analogous landing zones and oil in place to highly developed parts of the play
- Higher oil cut and shallower decline relative to Western Howard County
- HighPeak economics improved by company-owned infrastructure and capital efficiency

Wolfcamp A 10,000' well economics ⁽¹⁾

Single well sensitivities	Single well IRR%			
	DCE&F Costs (\$MM)			
		\$4.8	\$5.3	\$5.8
	\$35/bbl	46%	35%	27%
	\$50/bbl	131%	101%	82%
	\$65/bbl	251%	199%	164%
	Payback period (yrs)			
	DCE&F Costs (\$MM)			
		\$4.8	\$5.3	\$5.8
	\$35/bbl	1.8	2.2	2.6
	\$50/bbl	0.9	1.0	1.1
	\$65/bbl	0.7	0.7	0.8

Lower Spraberry 10,000' well economics ⁽¹⁾

Single well sensitivities	Single well IRR%			
	DCE&F Costs (\$MM)			
		\$4.8	\$5.3	\$5.8
	\$35/bbl	22%	16%	12%
	\$50/bbl	73%	59%	46%
	\$65/bbl	151%	123%	98%
	Payback period (yrs)			
	DCE&F Costs (\$MM)			
		\$4.8	\$5.3	\$5.8
	\$35/bbl	3.1	3.9	4.9
	\$50/bbl	1.3	1.6	1.8
	\$65/bbl	0.8	0.9	1.0

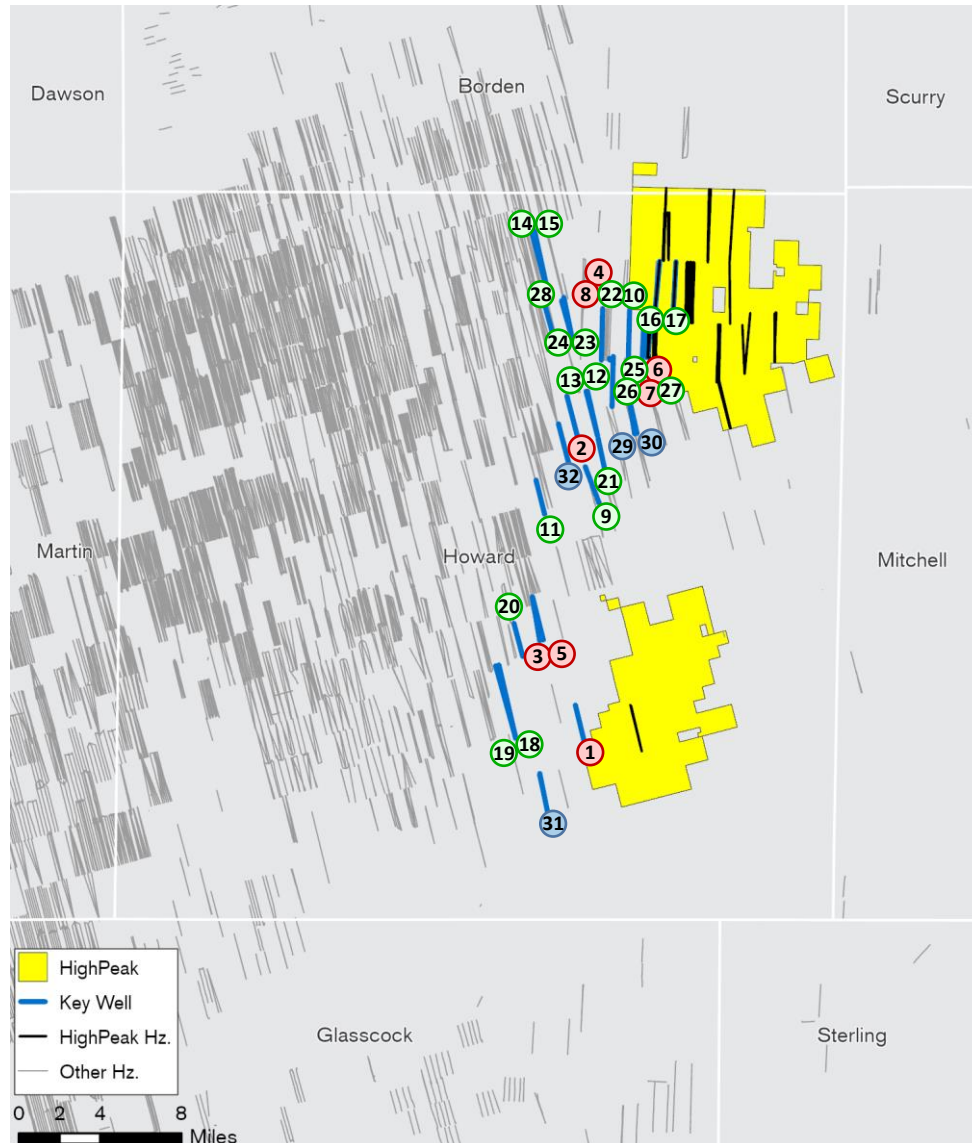
HighPeak planned average lateral length of 12,500' improves single-well IRRs to 120% (WCA) and 71% (LSBY) ⁽²⁾

Note: YE20 CGA Wolfcamp A PUD type curve (10,000' LL) utilizes peak oil rate of 825 Bo/d (month 4), b = 1.05, D_i=68%, and d_{min} = 6%.
 YE20 CGA Lower Spraberry PUD type curve (10,000' LL) utilizes peak oil rate of 775 Bo/d (month 3), b = 1.02, D_i=70.5%, and d_{min} = 6%.
 (1) Assumes \$3.00/MMBtu (gas) in all cases. Payback period calculated from first production.
 (2) Returns assumed \$50/bbl and current total well capex of \$505/ft.

KEY RESULTS: PRIMARY TARGETS



	Well Name	Operator	LL (ft)	First Prod	EUR (MBoe)	Oil EUR (Mbo/ft)
LSBY	1 ALLAR 19A-30 1LS	HANNATHON	7,580	Aug 2017	532	65
	2 CHEVRON 3-56 UNIT 7LS	GRENADIER	9,633	Feb 2020	819	63
	3 DUSTY 4824LS	SM ENERGY	7,859	Jul 2019	639	67
	4 MORGAN-NEAL 39-26 2LS	GRENADIER	10,482	Apr 2019	722	53
	5 NEDERLANDER 3725LS	SM ENERGY	9,887	Aug 2019	687	45
	6 OLDHAM 38-27 B UNIT L 7H	HIGHPEAK	10,031	Apr 2020	764	61
	7 OLDHAM 38-27 B UNIT L 8H	HIGHPEAK	10,203	Apr 2020	639	52
	8 OLDHAM TRUST WEST 4058LS	GRENADIER	10,482	May 2018	1,212	106
WCA	9 AUSTIN 22-15 UNIT 1WA	HANNATHON	7,760	Jan 2019	725	68
	10 BOX 42-55 UNIT 4WA	GRENADIER	10,041	Mar 2020	933	62
	11 BROUGHTON WISE 18 19 WA 1H	LAREDO	7,012	Nov 2017	570	63
	12 CHEVRON 3-38 WC UNIT 1H	GRENADIER	9,763	Jul 2018	678	46
	13 CHEVRON 3-56 UNIT 8WA	GRENADIER	N/A	Feb 2020	1,066	N/A
	14 COUGAR A 0343WA	SM ENERGY	12,973	May 2018	963	62
	15 COUGAR A 0344WA	SM ENERGY	12,975	May 2018	963	62
	16 JASMINE 'A' UNIT 1H	HIGHPEAK	9,990	Aug 2019	1,155	107
	17 JASMINE UNIT 1H	HIGHPEAK	9,913	Oct 2018	678	57
	18 KENT 1044WA	SM ENERGY	15,507	Mar 2019	727	39
	19 LLOYD 1045WA	SM ENERGY	15,516	Mar 2019	584	32
	20 LUCKY 4745WA	SM ENERGY	7,631	May 2019	509	51
	21 MIDLAND 15-10 1WA	HANNATHON	7,726	Apr 2017	597	62
	22 MORGAN-NEAL 39-26 3WA	GRENADIER	10,482	Apr 2019	1,062	54
	23 O'HAGEN B 2047WA	SM ENERGY	9,172	Mar 2018	1,004	78
	24 O'HAGEN B 2048WA	SM ENERGY	9,871	Mar 2018	1,309	91
	25 OLDHAM 38-27 B UNIT A 7H	HIGHPEAK	10,145	Apr 2020	804	59
	26 OLDHAM TRUST EAST 3871WA	GRENADIER	10,482	Apr 2018	1,007	76
	27 OLDHAM TRUST EAST 3876WA	GRENADIER	10,411	Jul 2019	1,159	101
	28 RAY KINSELLA 1341WA	SM ENERGY	10,297	Feb 2019	536	40
WCB/D	29 BROKEN ARROW 55-54-1-12 H 4W	BAYSWATER	8,430	Oct 2018	813	53
	30 FIRECREEK 54-1-12 H 1W	BAYSWATER	8,298	Oct 2018	751	52
	31 MORGAN-CHEVRON 46-39 A1H	HANNATHON	10,360	Oct 2019	1,101	48
	32 MUSGROVE MILLER 0904 2HM	BAYSWATER	9,787	Jul 2018	746	50

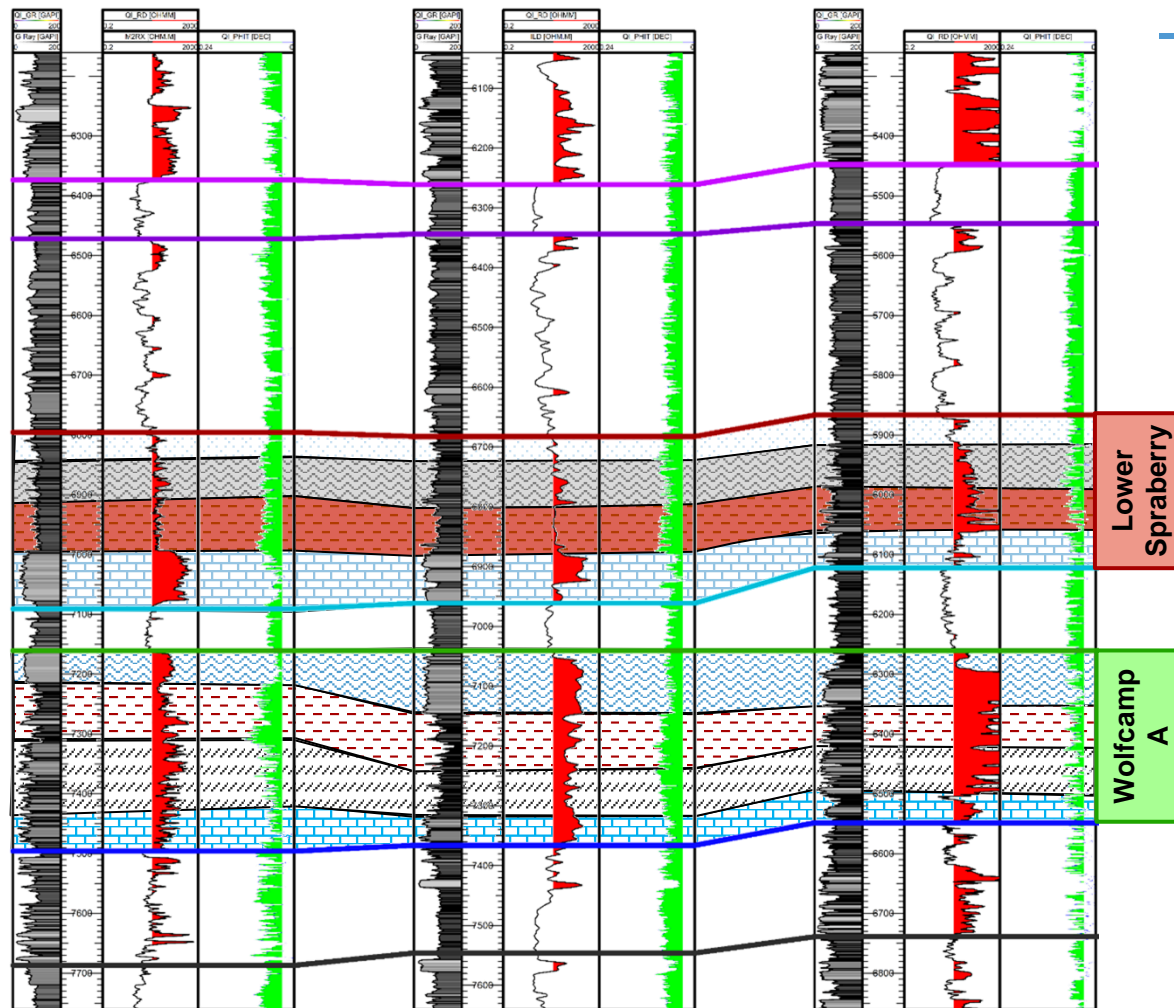


RESERVOIR QUALITY SIMILAR ACROSS HOWARD COUNTY



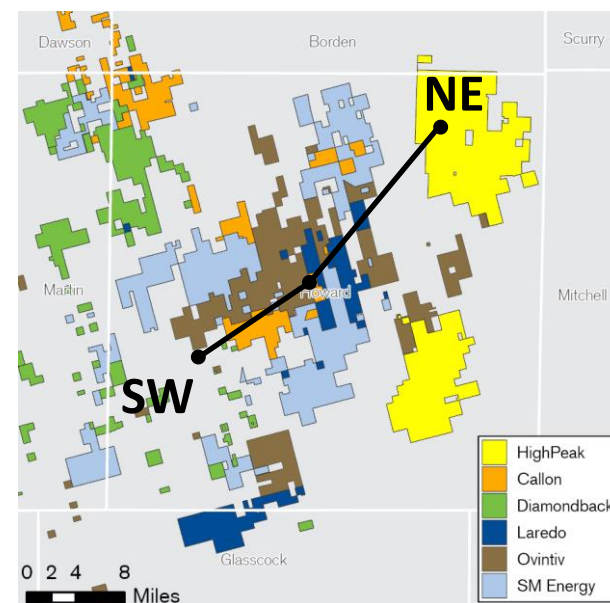
SW

NE



Key Reservoirs Comparison Across Howard County

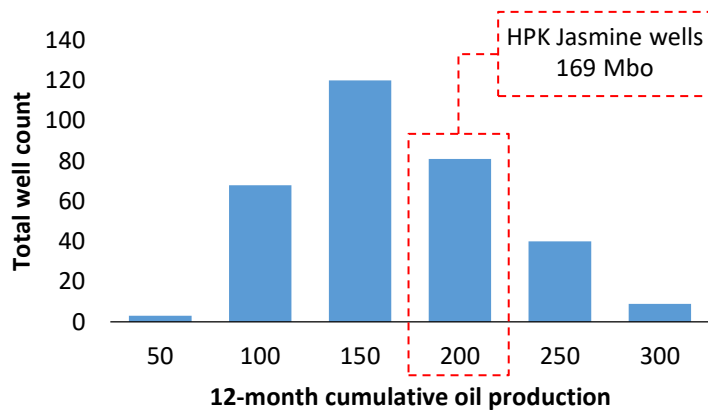
	Lower Spraberry		Wolfcamp A	
	West Howard	East Howard	West Howard	East Howard
Porosity	4.3%	4.7%	4.3%	4.3%
Net to gross	89%	91%	82%	89%
Wells/section	8	6	10	6



OIL-RICH MIXED LITHOLOGY ROCK COLUMN

- Spraberry and Wolfcamp sections comprised of mixed-lithology, kerogen-rich reservoirs
- Interbedded limestones are consistently kerogen-rich, high-porosity reservoir intervals
- All rock types are hydrocarbon-bearing and contribute to production
- Jasmine Unit wells targeted this upper section of the Wolfcamp A with results in the top 20% of all Wolfcamp A wells in Howard County
- Target reservoirs are mature into the oil window with Tmax values from 435–450 degrees

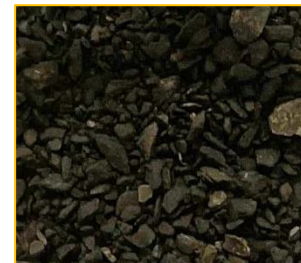
East Howard Production Comparison



Organic-rich shale facies



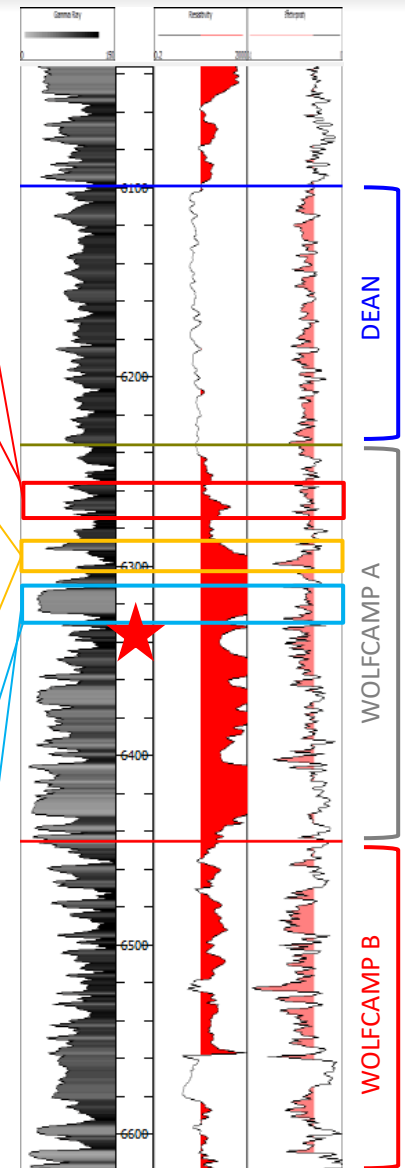
Organic-rich mixed shale-lime facies



Kerogen-rich porous limestone facies



Denotes Jasmine well landing zone



OVER A DECADE OF INVENTORY

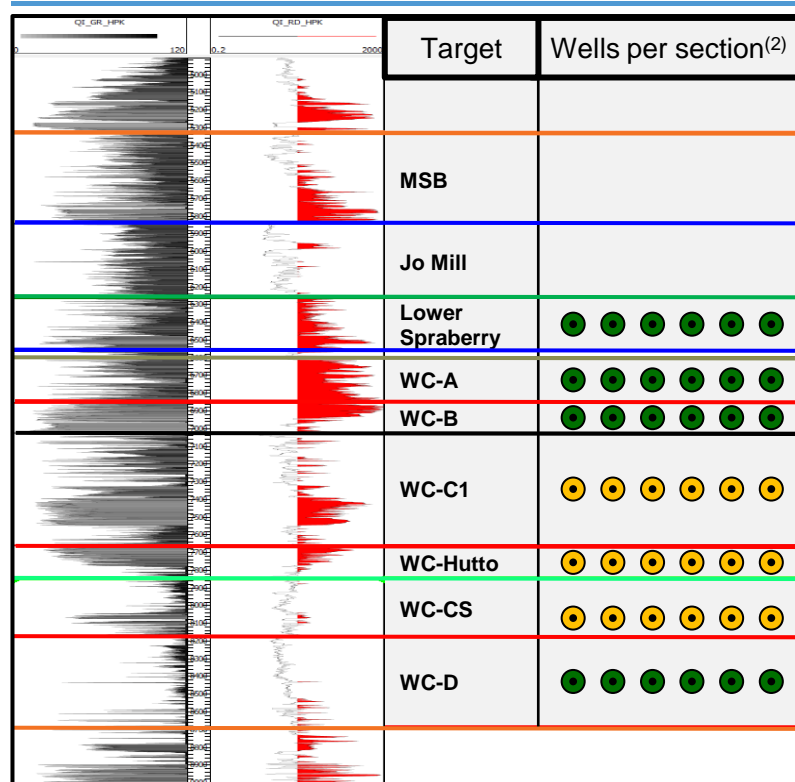


Target	Wolfcamp A	Lower Spraberry	Wolfcamp B	Wolfcamp D	Jo Mill	Middle Spraberry	Wolfcamp C
Flat Top Operated Locations	156	165	173	173	172	172	0
Signal Peak Operated Locations	114	114	114	114	0	0	228 ⁽¹⁾

Flat Top Development Design



Signal Peak Development Design



- (1) Locations include Hutto and Wolfcamp C shale.
 (2) Assumes 1-mile wide and 2-mile long drilling units.

SUBSTANTIAL EXISTING IN-BASIN INFRASTRUCTURE WITH PREMIER MIDSTREAM & MARKETING SOLUTIONS AVAILABLE



Crude Oil Gathering and Takeaway

- At present, HighPeak incurs trucking costs of ~\$1.50/Bbl but anticipates entering into a transportation agreement that will substantially reduce transport costs going forward
 - Very attractive all-in gathering and marketing cost to receive Midland pricing as a premier takeaway pathway
 - Buyback option to provide flexibility to receive MEH or Cushing pricing
- Majority of capital for facilities has already been spent; future upgrades will require minimal capex

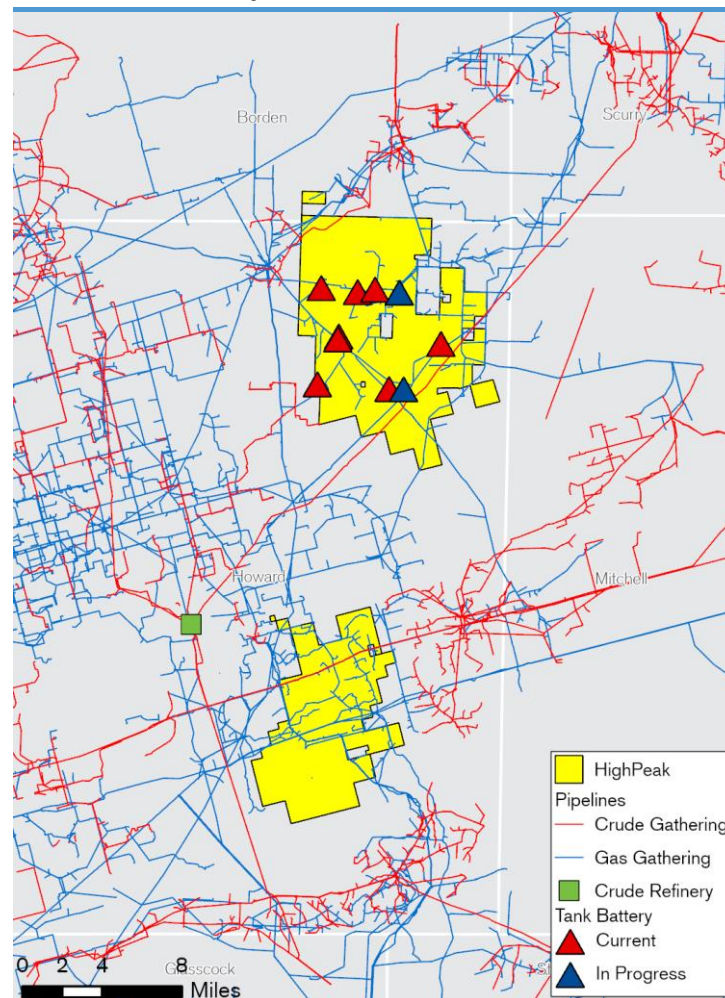
Natural Gas Gathering and Processing

- Current production is being sold to third-party gas purchasers at attractive rates
- Extensive gas infrastructure connecting to a number of processing plants which reduces HighPeak's exposure to individual plant downtime while maintaining pricing stability through fixed recoveries

Salt Water Disposal and Infrastructure

- Majority of existing HighPeak horizontal wells connected via pipeline to company owned SWD system or third-party disposal wells
- HighPeak is building out a company owned-operated water system in Flat Top area which will provide the following benefits:
 - Cost efficient SWD infrastructure
 - Option to reuse produced water for D&C operations
 - System size provides scale for projected growth
- Model forecast includes capital for system buildout
- Drilled Howard County's 1st horizontal Ellenburger SWD which will provide for large daily disposal rates

Infrastructure Map



Manufacturing development mode with no minimal volume commitments

HighPeak Energy continues to keep ESG considerations at the forefront of operations

Flaring / Emissions

- HighPeak is actively focused on eliminating air emissions through reducing their carbon footprint in the following ways:
 - Decreasing truck traffic by installing their own water disposal system and tank batteries – recently completed SWD will remove ~166,000 truckloads of water over the course of a year ⁽¹⁾
 - Planned infrastructure buildout to eliminate the need to flare under standard operating conditions

Commitment to Sustainability

- HighPeak is committed to meeting the highest of environmental, social and governance standards
- Economics incentivize conservation & responsible behavior
- HighPeak expects to publish its initial sustainability report for full-year 2021

Water Disposal and Recycle

- Drilled first large volume capacity horizontal Ellenburger disposal well
 - Permitted 3 additional disposal wells strategically located to the existing system
- Northern part of Flat Top acreage connected to disposal system, southern part of Flat Top connected by Q3 2021
- Deep disposal and recycle of produced water protects and minimizes the use of groundwater resources

Governance

- Committed to representative governance – 2 of 7 board members identify themselves as diverse
- Although not required as a “controlled” company, a majority of the board members are independent
- Management committed to safe and responsible operations

(1) Based on average expected permitted capacity of 50 MBbl/d (72 MBbl/d max) of water disposal capacity. Assumes 110 Bbl/truckload.

HighPeak's strong operational performance with leading well results creates a new leading Permian company

Superior and Differentiated E&P Business Model

- HighPeak's 2021E oil cut of 85%–90% exceeds peer average of ~73% ⁽¹⁾
- Wolfcamp A type curve IRR of >100% ⁽²⁾
- Multi-year, multi-zone operated inventory
- Industry-leading all-in-cost and full cycle economics
- Optimal strategy for midstream takeaway

Contiguous Acreage Position with Peer-Leading Margins

- Focused development in the de-risked Flat Top operating area, where HighPeak has ~33,000 net acres and 33 wells completed or in progress at 3/15/21
- Contiguous land position of ~51,000 net acres with minimal lease obligations
- Low cost G&A focused on equity performance incentives with G&A of <\$1.75/Boe expected for 2021E ⁽³⁾
- Peer-leading 2021E EBITDA margins of \$41–\$46 per Boe driven by high oil cut ⁽⁴⁾

Premier Asset Coverage

- No leverage today and \$20 MM cash on the balance sheet at 12/31/20
- By April 2021, PDP is expected to grow significantly as a result of HighPeak's drilling and completion program
- Equity value greater than \$1.2 billion ⁽⁵⁾
- Actual well results with >6 months production history exceeding third-party type curves

Sponsor and Management Team Highly Aligned with Public Investors

- Current management and sponsor ownership of ~90% provides unique alignment
- Management incentives structure promotes long-term value creation
- Conservative balance sheet which is sustainable through all cycles is a key financial policy

Skilled, Cycle-Tested Management Team

- Management team has demonstrated repeated ability to achieve best in class metrics
- Successfully led multiple public companies through numerous industry cycles
- Management team focused on optimal ESG performance and standards maintenance

(1) Selected peer set includes: APA, CPE, CrownRock, DoublePoint, Endeavor, FANG, LPI, OVV and SM.

(2) Assumes HighPeak Wolfcamp A type curve at average DCE&F costs of \$5.30 MM for 10,000' lateral and \$63/Bbl WTI (2021 expected average length 11,500'–12,000' and current all-in costs \$505/ft).

(3) Assumes one-rig program.

(4) Based on flat pricing of \$63.00/Bbl and \$3.00/Mmbtu as adjusted for differentials under a one-rig program with completed SWD infrastructure buildout.

(5) Based on FactSet as of 3/1/21.



HIGHPEAK
ENERGY

APPENDIX

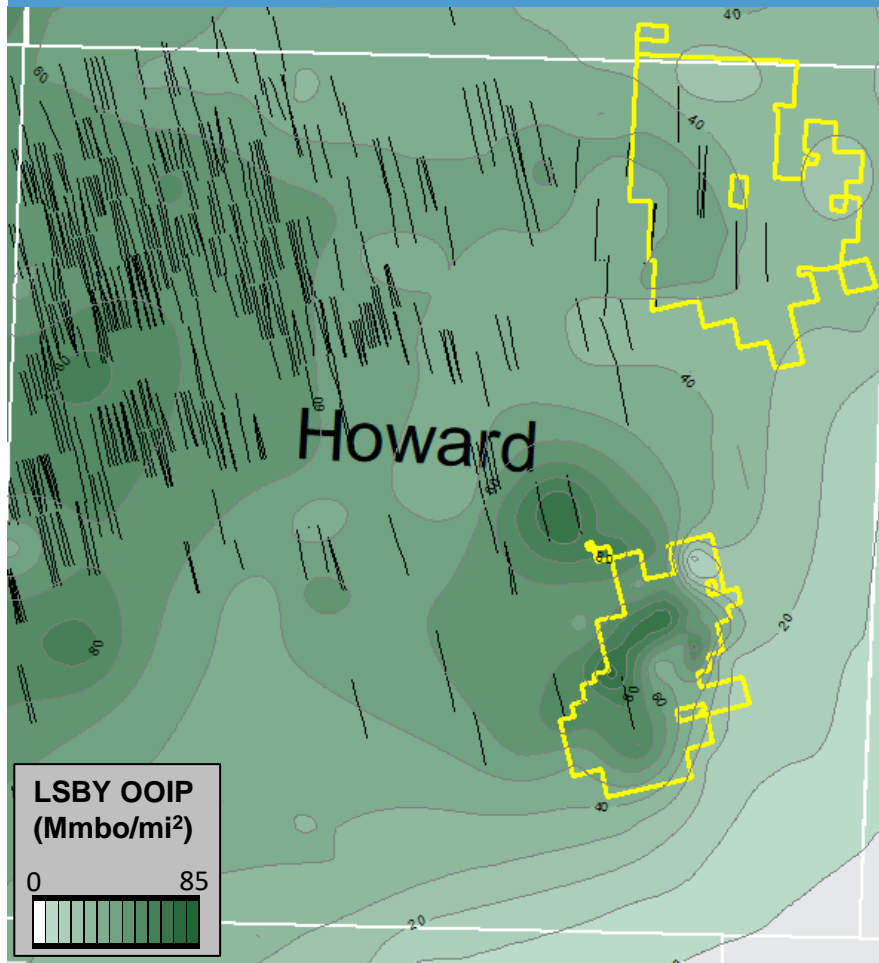


KEY HIGHPEAK RESERVOIRS COMPARABLE TO W. HOWARD COUNTY

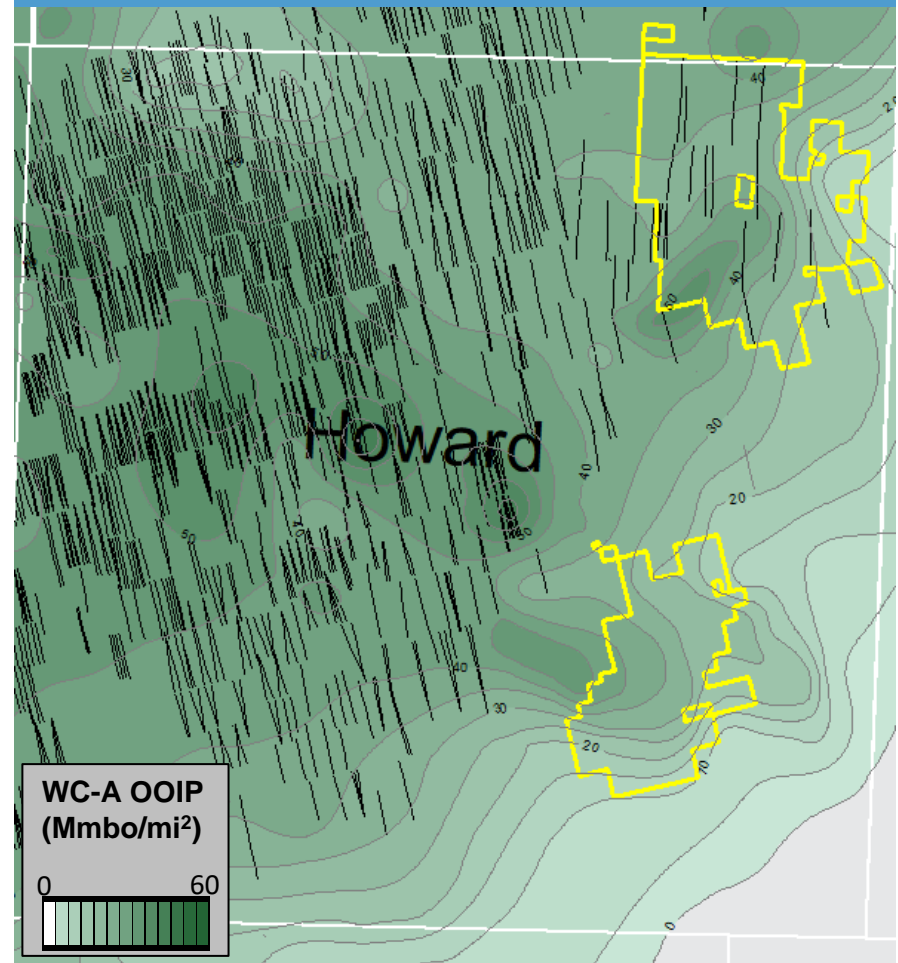


Primary reservoirs have comparable rock quality on HighPeak acreage compared to Western Howard

Lower Spraberry OOIP



Wolfcamp A OOIP

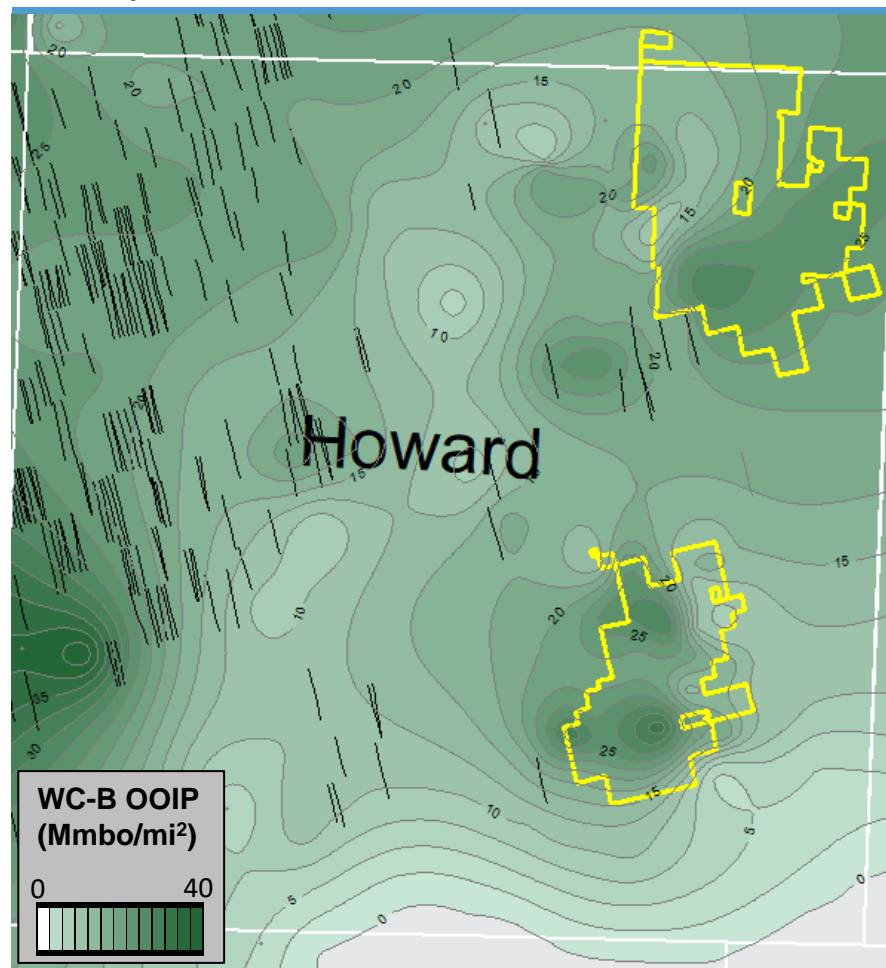


HIGHPEAK ACREAGE HAS MOST ATTRACTIVE LOWER WOLFCAMP

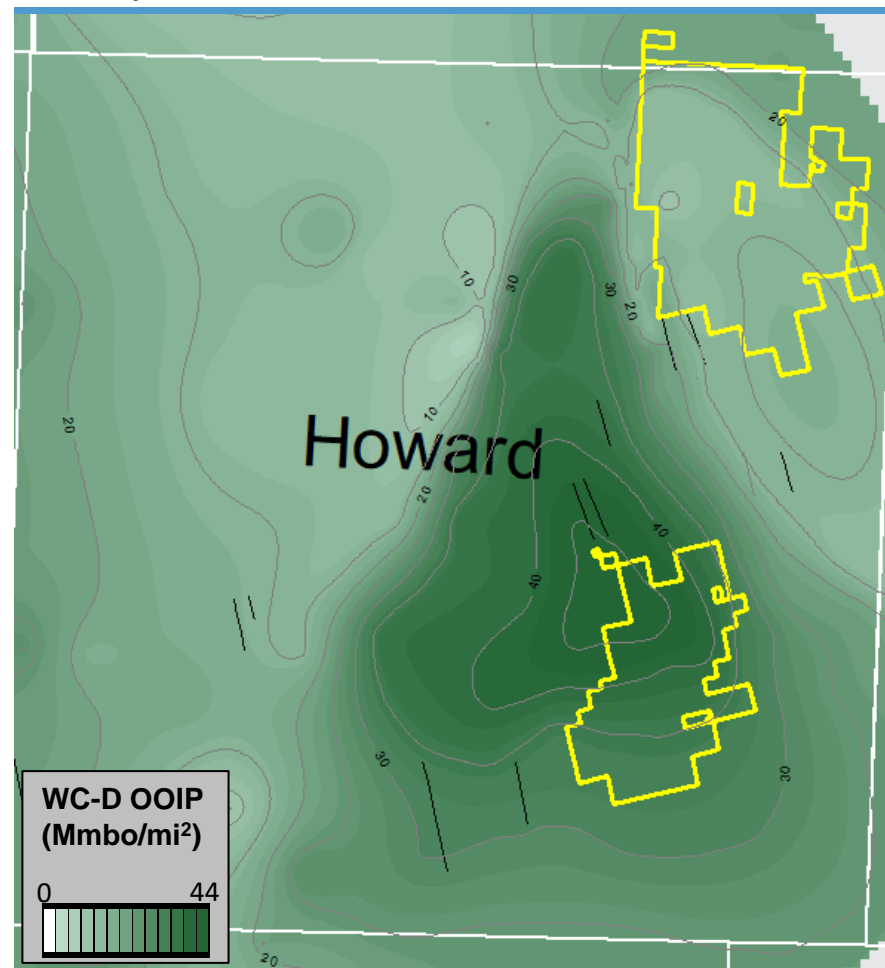


De-risked Wolfcamp B and D shales have the highest OOIP in Howard County

Wolfcamp B OOIP



Wolfcamp D OOIP

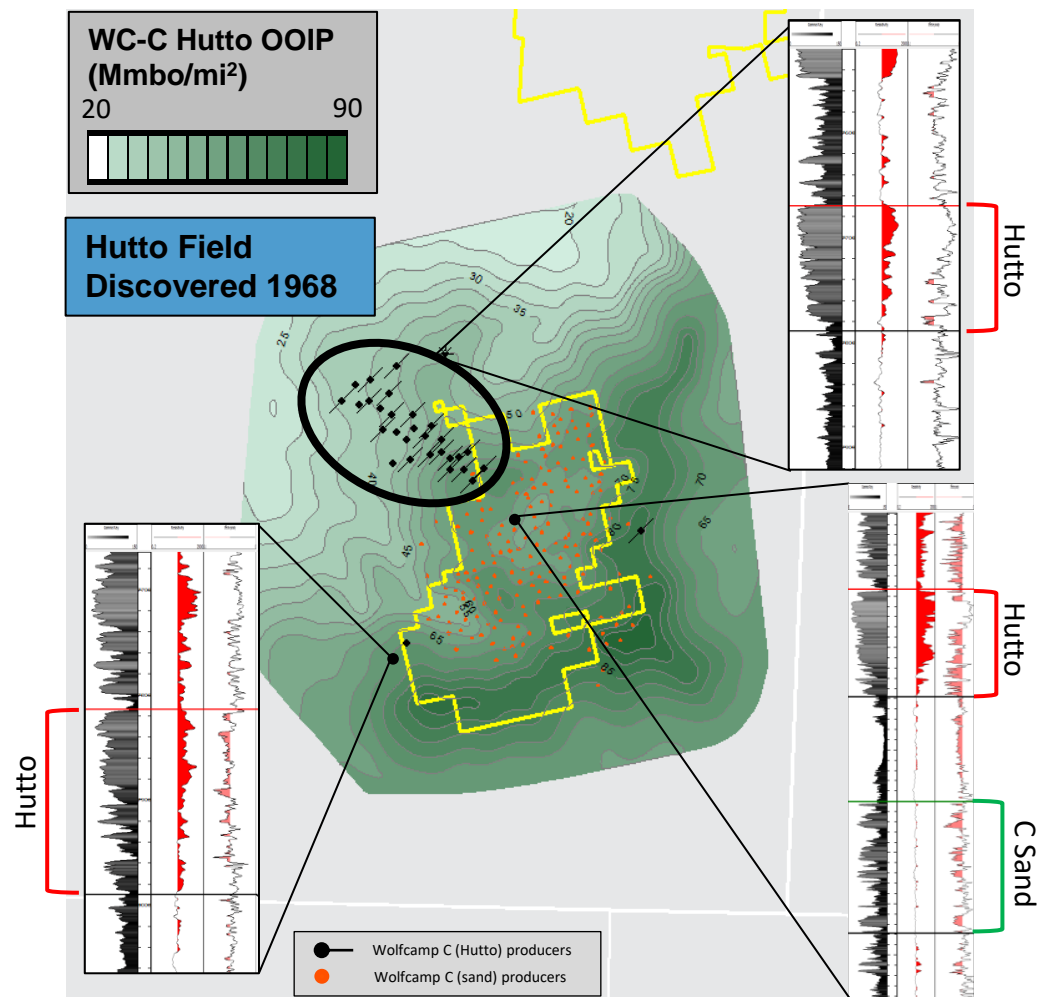
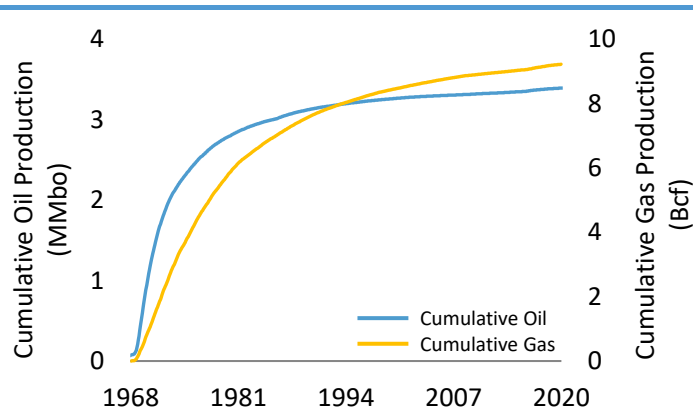


SIGNAL PEAK OFFSETS PROLIFIC WOLFCAMP C HUTTO FIELD



- The Wolfcamp C Hutto reservoir is a mixed lithology interval that has produced >4.5 million barrels of oil equivalent from 32 vertical wells
- The lower target interval exhibits consistently high porosity throughout the Signal Peak acreage position
- A planned 2021 horizontal well will establish productivity in this prolific interval away from current field extents
- This well will de-risk over 114 Wolfcamp C Hutto well locations

Wolfcamp C Hutto Vertical Production



The Wolfcamp C sand, which underlies the Hutto, has produced over 15 million barrels of oil equivalent from 182 wells at Signal Peak

PROVEN TRACK RECORD OF VALUATION CREATION



Jack Hightower has experience developing assets for multiple classes of oil & gas investors

Public Investors

Former CEO of two public businesses, Titan Exploration & Pure Resources, that generated >6.0x ROI to investors

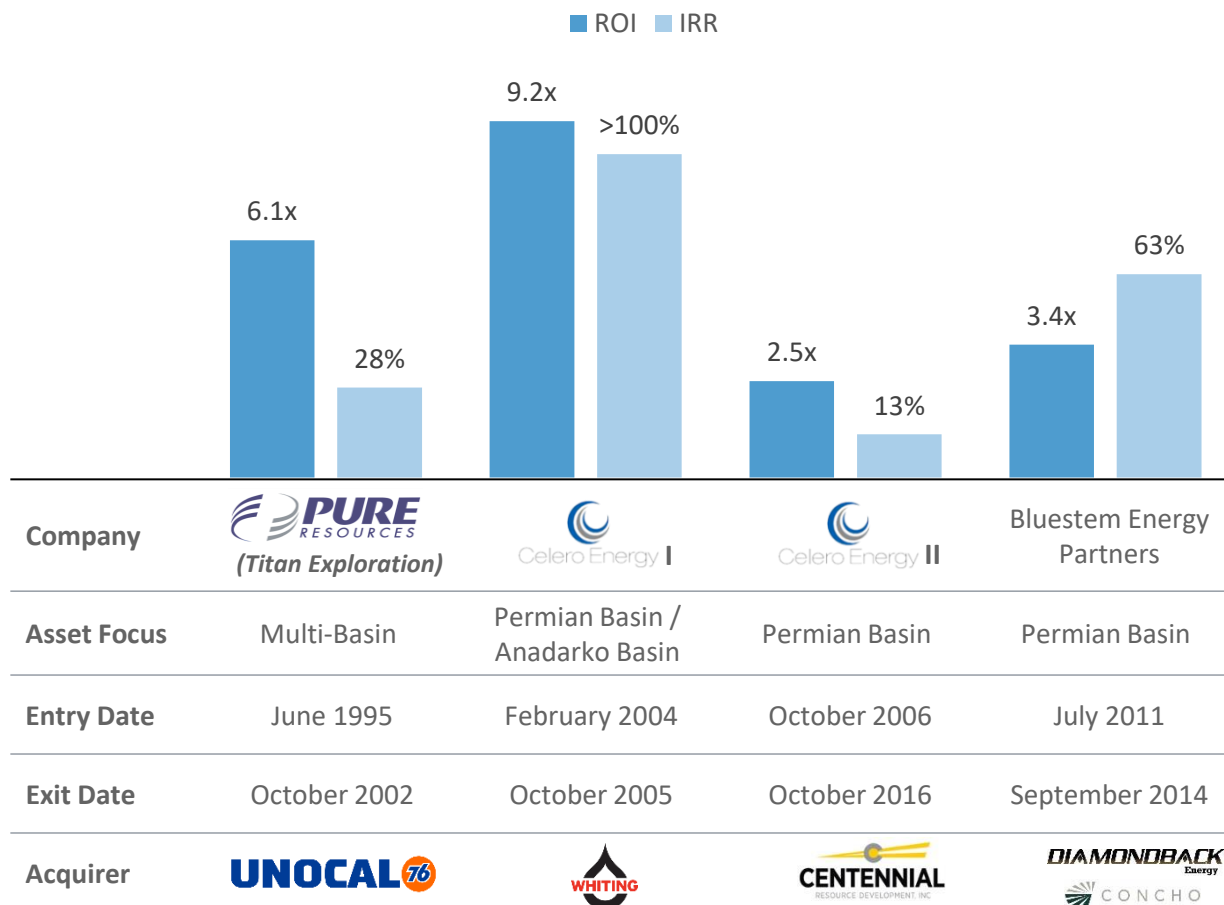
Partnerships with Majors

Managed multiple partnerships with major oil companies

Private Equity

Partnered with private equity on 4 businesses, generating average returns of over 5.0x ROI and 100% IRR to investors

Jack Hightower Selected Investment Returns



Jack Hightower has a proven track record of successfully acquiring, developing and optimizing oil and gas businesses
Jack Hightower's prior businesses have generated average returns of >5.0x ROI and >100% IRR for original investors



HIGHPEAK
E N E R G Y

The End