UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 8-K

CURRENT REPORT

PURSUANT TO SECTION 13 OR 15(D) OF THE
SECURITIES EXCHANGE ACT OF 1934

Date of Report (Date of earliest event reported): February 9, 2022

HighPeak Energy, Inc.

(Exact Name of Registrant as Specified in its Charter)

Delaware	**333-235313**	**84-3533602**
(State or Other Jurisdiction of Incorporation)	(Commission File Number)	(IRS Employer Identification Number)

421 W. 3rd St., Suite 1000
Fort Worth, Texas 76102
(Address of Principal Executive Offices)
(Zip Code)

(817) 850-9200
(Registrant's Telephone Number, Including Area Code)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Trading Symbol(s)	Name of Each Exchange on Which Registered
Common Stock	HPK	The Nasdaq Stock Market LLC
Warrant	HPKEW	The Nasdaq Stock Market LLC

Indicate by check mark whether the registrant is an emerging grown company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).
Emerging growth company ☒
If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Item 2.02 Results of Operations and Financial Condition.

In connection with its proposed issuance (the "Private Placement") of $225 million 10.00% Senior Unsecured Notes due 2024 (the "Notes"), HighPeak Energy, Inc. (the "Company," "HighPeak Energy," "HighPeak" or the "issuer"), provided the operational updates set forth below in the disclosures provided to investors.

Preliminary Information Regarding Quarter ended December 31, 2021 and Year Ending December 31, 2021

During the year ended December 31, 2021, the Company successfully drilled twenty-six (26) horizontal wells, of which twenty-one (21) were located in Flat Top, including one salt-water disposal well, and five (5) were located in Signal Peak. Also, we had an additional twenty-eight (28) wells in progress as of December 31, 2021. At Flat Top, we had four (4) wells being drilled, including three (3) horizontal wells and one (1) salt-water disposal well and twenty (20) horizontal wells in various stages of completion. At Signal Peak, we had two (2) horizontal wells being drilled and two (2) horizontal wells in various stages of completion that are expected to be brought online over the next three months.

As of the date of this offering circular, we have not finalized our financial and operational results for the three months or the year ended December 31, 2021. However, based on preliminary information, we estimate that our average net daily production for the three months ended December 31, 2021, ranged from approximately 14.5 MBoe to approximately 15.5 MBoe, consisting of approximately 85% to 90% oil and approximately 92.5% to 97.5% liquids. Fourth quarter 2021 production estimates are based primarily on production from approximately 59 gross (47.3 net) horizontal wells. At December 31, 2021, the Company had an additional 27 gross (23.0 net) oil wells in various stages of drilling or completion. Net income before interest expense, interest income, income taxes, depletion, depreciation, amortization, accretion of discount on asset retirement obligations, exploration and abandonment expense, non-cash stock-based compensation expense, derivative gains and losses net of settlements, gains and losses on divestitures and certain other items ("EBITDAX"), a non-GAAP financial measure, for the three months ended December 31, 2021 based on preliminary information, ranged from approximately $70 million to approximately $75 million.

This preliminary estimate is derived from our internal records and is based on the most current information available to management. This preliminary estimate has not been audited or reviewed by our independent auditors nor have our independent auditors performed any procedures with respect to this information or expressed any opinion or any form of assurance on such information. This estimate is preliminary, unaudited and inherently uncertain. Our normal reporting processes with respect to the foregoing preliminary estimate have not been fully completed and our auditors have not completed an audit or review of such estimate. During the course of our and our auditors' review on this preliminary estimate, we could identify items that would require us to make adjustments and which could affect our final results. Any such adjustments could be material. This preliminary estimate should not be viewed as indicative of our financial condition or results as of or for any future period. Actual results could differ from the estimates, trends and expectations discussed herein, and such differences could be material.

For the year ending December 31, 2022, the Company currently plans to operate four (4) drilling rigs and an average of two (2) frac fleets in the Permian Basin. However, the scope, duration and magnitude of the direct and indirect effects of the ongoing coronavirus disease ("COVID-19") pandemic are continuing to evolve and in ways that are difficult or impossible to anticipate. Given the dynamic nature of this situation, the Company is maintaining flexibility in its capital plan and will continue to evaluate drilling and completion activity on an economic basis, with future activity levels assessed monthly.

In connection with the Private Placement, the Company provided additional information to investors regarding reserve estimates based on reserve reports prepared by Cawley, Gillespie & Associates, Inc., providing for reserve estimates as of December 31, 2021. Copies of the reserve reports are attached hereto as Exhibit 99.2 and Exhibit 99.3 and are incorporated herein by reference.

Summary Reserve Data as of December 31, 2021

The following table represents a summary of our proved reserves and associated PV-10 as of December 31, 2021. Such estimates are based on reserve reports prepared by Cawley, Gillespie & Associates, Inc., our independent petroleum engineers, using methods prescribed by the U.S. Securities and Exchange Commission (the "SEC"), attached hereto as the Appendix to Exhibit 99.2, which we refer to herein as "SEC pricing," and using specified management parameters of $72 per Bbl of oil and $3.75 per one million British thermal units ("MMBtu") of natural gas, referred to herein as "management pricing".

	December 31, 2021	
	SEC Pricing (1)	**Management Pricing (2)**
Proved Developed Producing:		
Oil (MBbls)	15,726	15,819
Natural gas (MMcf)	11,389	11,500
Natural gas liquid (MBbls)	2,747	2,773
Oil equivalent (MBoe)	20,371	20,508
PV-10 (dollars in thousands)(3)	530,693	582,023
Proved Developed Non-Producing:		
Oil (MBbls)	6,884	6,909
Natural gas (MMcf)	3,222	3,235
Natural gas liquid (MBbls)	793	796
Oil equivalent (MBoe)	8,214	8,244
PV-10 (dollars in thousands)(3)	211,344	233,400
Proved Undeveloped(4):		
Oil (MBbls)	29,215	29,317
Natural gas (MMcf)	15,450	15,511
Natural gas liquid (MBbls)	3,838	3,854
Oil equivalent (MBoe)	35,628	35,757
PV-10 (dollars in thousands)(3)	596,156	682,219
Total Proved:		
Oil (MBbls)	51,825	52,045
Natural gas (MMcf)	30,061	30,246
Natural gas liquid (MBbls)	7,378	7,423
Oil equivalent (MBoe)	64,213	64,509
PV-10 (dollars in thousands)(3)	1,338,193	1,497,642

(1) SEC pricing proved reserves and associated PV-10 are estimated in accordance with guidelines established by the SEC. The SEC requires the use of a 12-month average price, calculated as the unweighted arithmetic average of the first-day-of-the-month price for each month within the 12-month period prior to the end of the reporting period, The base oil price is based upon WTI-Cushing spot prices (EIA) during January 2021 through December 2021 and the base gas price is based on Henry Hub spot prices (Platts Gas Daily) during January 2021 through December 2021. Natural gas liquids ("NGL") prices were adjusted on a per-property basis and averaged 44.5% of the oil price on a composite basis. The base prices were adjusted for differentials on a per-property basis, which may include local basis differential, treating cost, transportation, gas shrinkage, gas heating value and/or crude quality and gravity corrections. After these adjustments, the net realized prices for the SEC pricing over the life of the proved properties was estimated to be $66.10 per barrel for oil, $0.786 per MCF for natural gas and $29.76 per barrel for NGL. Economic factors were held constant in accordance with SEC guidelines.

(2) Management pricing proved reserves and associated PV-10 are prepared based on specified management parameters of $72 per Bbl of oil and $3.75 per MMBtu of natural gas. In the management pricing scenario base prices were adjusted for differentials on a per-property basis, which may include local basis differential, treating cost, transportation, gas shrinkage, gas heating value and/or crude quality and gravity corrections. After these adjustments, the net realized prices for the management pricing case over the life of the proved properties was estimated to be $71.54 per Bbl of oil, $0.923 per MCF for natural gas and $32.18 per Bbl for NGL.

HighPeak believes that the use of management pricing provides useful information about its reserves, as the management 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 management pricing used in preparing such estimates 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 and associated PV-10.

(3) PV-10 is considered a non-GAAP financial measure.

(4) Sustained lower prices for oil and natural gas may cause us to forecast less capital to be available for development of our proved undeveloped ("PUD") reserves, which may cause us to decrease the amount of our PUD reserves we expect to develop within the allowed time frame. In addition, lower oil and natural gas prices may cause our PUD reserves to become uneconomic to develop, which would cause us to remove them from the PUD category.

The information in this Item 2.02 shall not be deemed to be "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that section, and is not incorporated by reference into any filing under the Securities Act of 1933, as amended (the "Securities Act"), or the Exchange Act.

Item 7.01 Regulation FD Disclosure.

The Company issued a press release on February 9, 2022 announcing the pricing of $225 million private placement of senior notes due 2024. A copy of the press release is included as Exhibit 99.1 hereto and incorporated by reference.

The information in this Item 7.01 shall not be deemed to be "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that section, and is not incorporated by reference into any filing under the Securities Act of 1933, as amended (the "Securities Act"), or the Exchange Act.

Item 8.01 Other Events.

The information set forth in Item 2.02 above under the caption "Summary Reserve Data as of December 31, 2021" is incorporated herein by reference.

In addition, in connection with the Private Placement, the Company provided the additional recent development set forth below in the disclosures provided to investors.

Credit Agreement Amendment

Concurrent with the signing of the purchase agreement, dated February 9, 2022, among the issuer, HighPeak Energy Acquisition Corp.; HighPeak Energy Employees, Inc.; HighPeak Energy Holdings, LLC; HighPeak Energy Assets; LLC and Lazy JJ Properties, LLC (the "Guarantors") and Credit Suisse Securities, LLC, as initial purchaser (the "Purchase Agreement"), HighPeak Energy, as borrower, Fifth Third Bank, National Association, as administrative agent, the guarantors party thereto and the lenders party thereto intends to enter into that certain Third Amendment to Credit Agreement (the "Credit Agreement Amendment"), which will amend that certain Credit Agreement, dated as of December 17, 2020 (as amended, restated, amended and restated, supplemented or otherwise modified by (i) that certain First Amendment to Credit Agreement, dated as of June 23, 2021, (ii) that certain Second Amendment to Credit Agreement, dated as of October 1, 2021 and (iii) the Credit Agreement Amendment, (the "Credit Agreement"), among HighPeak Energy, Fifth Third Bank, National Association, as administrative agent, the guarantors party thereto and the lenders party thereto to, among other things, (i) update the maturity date to a springing maturity date, which will cause the Credit Agreement to mature on October 1, 2023 if the Notes are not retired or refinanced prior to that date, (ii) allow the borrower to redeem the Notes with proceeds of a refinancing, with proceeds of an equity offering or with cash, in each case, subject to certain customary conditions and (iii) replace the USD LIBOR rates with Term SOFR rates.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits.

Exhibit No.	Description
23.1	Consent of Cawley, Gillespie & Associates, Inc.
99.1	Press Release dated February 9, 2022
99.2	Cawley, Gillespie & Associates, Inc. SEC Price Case Reserves Report of HighPeak Energy, Inc. at December 31, 2021.
99.3	Cawley, Gillespie & Associates, Inc. Management Price Case Reserves Report of HighPeak Energy, Inc. at December 31, 2021.
104	Cover Page Interactive Data File (embedded within Inline XBRL document).

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Date: February 9, 2022

HIGHPEAK ENERGY, INC.

By: /s/ Steven W. Tholen
Name: Steven W. Tholen
Title: Chief Financial Officer

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Cawley, Gillespie & Associates, Inc., hereby consents to the inclusion of and incorporation by reference, as applicable, of the reserve reports dated January 18, 2022 and January 27, 2022 in the Form 8-K filed by HighPeak Energy, Inc. (the "Company") with the Securities and Exchange Commission on the date hereof and to the Registration Statements on Form S-8 (File No. 333-249888) and Form S-3 (File No. 333-261706) of the Company. We also hereby consent to all references to our firm or such reports included in or incorporated by reference into such Registration Statements.

CAWLEY, GILLESPIE & ASSOCIATES, INC.
Texas Registered Engineering Firm

/s/ W. Todd Brooker
W. Todd Brooker, P.E.
President

Austin, Texas
February 9, 2022

Exhibit 99.1

HighPeak Energy, Inc. Announces Pricing of $225 Million Private Placement of Senior Unsecured Notes Due 2024

Fort Worth, Texas, February 9, 2022 (GLOBE NEWSWIRE) - HighPeak Energy, Inc. ("HighPeak" or the "Company") (NASDAQ: HPK) today announced the pricing of a private placement of $225 million principal amount of 10.0% senior unsecured notes due 2024 (the "Notes"). The offering is expected to close on February 16, 2022, subject to customary closing conditions. HighPeak intends to use the proceeds to fund its 2022 development drilling program, pay off the outstanding debt under its revolving credit agreement and pay related fees and expenses.

The Notes have not been registered under the United States Securities Act of 1933 (the "Securities Act"), as amended, or any state securities laws, and unless so registered, the securities may not be offered or sold in the United States except pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the Securities Act and applicable state securities laws. The Notes are expected to be eligible for trading by qualified institutional buyers under Rule 144A under the Securities Act and persons outside the United States pursuant to Regulation S under the Securities Act.

This press release is neither an offer to sell nor a solicitation of an offer to buy the Notes or any other securities and shall not constitute an offer to sell or a solicitation of an offer to buy, or a sale of, the Notes or any other securities in any jurisdiction in which such offer, solicitation or sale is unlawful.

About HighPeak Energy, Inc.

HighPeak Energy, Inc. is a publicly traded independent oil and natural gas company, headquartered in Fort Worth, Texas, focused on the acquisition, development, exploration and exploitation of unconventional oil and natural gas reserves in the Midland Basin in West Texas. For more information, please visit our website at www.highpeakenergy.com.

Investor Contact:
Ryan Hightower
Vice President, Business Development
817.850.9204
rhightower@highpeakenergy.com

Source: HighPeak Energy, Inc.

EVALUATION SUMMARY

HIGHPEAK ENERGY, INC. INTERESTS

TOTAL PROVED RESERVES

CERTAIN PROPERTIES IN HOWARD COUNTY, TEXAS

AS OF DECEMBER 31, 2021

SEC PRICE CASE

CG&A
CAWLEY, GILLESPIE & ASSOCIATES, INC.
PETROLEUM CONSULTANTS

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CAWLEY, GILLESPIE & ASSOCIATES, INC.
PETROLEUM CONSULTANTS
Texas Registered Engineering Firm F-693

/s/ W. Todd Brooker
W. Todd Brooker, P.E.
President

/s/ Robert P. Bergeron
Robert P. Bergeron, Jr., P.E.
Reservoir Engineer

CAWLEY, GILLESPIE & ASSOCIATES, INC.

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January 18, 2022

Mr. Jack Hightower
Chairman & CEO
HighPeak Energy, Inc.
421 W 3rd St, Suite 1000
Fort Worth, Texas 76102

Re: Evaluation Summary
HighPeak Energy, Inc. Interests
Total Proved Reserves
Certain Properties in Howard County, Texas
As of December 31, 2021

Pursuant to the Guidelines of the Securities and Exchange Commission for Reporting Corporate Reserves and Future Net Revenue

Dear Mr. Hightower:

As you have requested, this report was completed on January 18, 2022 for the purpose of submitting our estimates of proved reserves and forecasts of economics attributable to the *HighPeak Energy, Inc.* ("HighPeak") interests and for inclusion as an exhibit in a filing made with the U.S. Securities and Exchange Commission ("SEC"). This report includes 100% of HighPeak's proved reserves, which are made up of oil and gas properties in Howard County, Texas. This report utilized an effective date of December 31, 2021 and was prepared in accordance with the disclosure requirements set forth in SEC regulations. This evaluation was prepared using constant prices and costs, and conforms to Item 1202(a)(8) of Regulation S-K and other rules of the SEC. A composite summary of the results of this evaluation are presented below:

		Proved Developed Producing	Proved Developed Non-Producing	Proved Developed	Proved Undeveloped	Total Proved
Net Reserves						
Oil	- Mbbl	15,725.7	6,884.0	22,609.6	29,214.9	51,824.5
Gas	- MMcf	11,389.0	3,222.4	14,611.4	15,449.3	30,060.7
NGL	- Mbbl	2,746.6	793.1	3,539.7	3,838.5	7,378.2
Net Revenue						
Oil	- M$	1,039,209.3	454,947.5	1,494,156.9	1,931,183.2	3,425,340.4
Gas	- M$	9,802.1	1,803.4	11,605.5	12,022.5	23,627.9
NGL	- M$	79,325.6	24,430.4	103,756.0	115,811.5	219,567.5
Severance Taxes	- M$	54,488.2	22,895.1	77,383.3	98,422.0	175,805.3
Ad Valorem Taxes	- M$	26,846.2	11,457.2	38,303.4	49,014.9	87,318.2
Operating Expenses	- M$	212,566.3	67,052.3	279,618.6	282,122.8	561,741.3
Abandonment Costs	- M$	4,196.8	846.5	5,043.2	3,719.5	8,762.8
Future Development Costs	- M$	0.0	31,129.2	31,129.2	389,487.7	420,616.8
Net Operating Income (BFIT)	- M$	830,239.6	347,801.2	1,178,040.3	1,236,250.4	2,414,291.5
Discounted @ 10%	**- M$**	**530,692.8**	**211,343.9**	**742,036.7**	**596,156.2**	**1,338,192.9**

Future revenue is prior to deducting state production taxes and ad valorem taxes. Future net cash flow is after deducting these taxes, future capital (development) costs and operating expenses, but before consideration of federal income taxes. The future net cash flow has been discounted at an annual rate of ten percent to determine its "present worth". The present worth is shown to indicate the effect of time on the value of money and should not be construed as being the fair market value of the reserves by Cawley, Gillespie & Associates, Inc. ("CG&A").

The oil reserves include oil and condensate. Oil volumes and NGL volumes are expressed in barrels (42 U.S. gallons). Gas volumes are expressed in thousands of standard cubic feet (Mcf) at contract temperature and pressure base.

Hydrocarbon Pricing

As requested for SEC purposes, the base oil and gas prices calculated for December 31, 2021 were $66.56/BBL and $3.598/MMBTU, respectively. As specified by the SEC, a company must use a 12-month average price, calculated as the unweighted arithmetic average of the first-day-of-the-month price for each month within the 12-month period prior to the end of the reporting period. The base oil price is based upon WTI-Cushing spot prices (EIA) during January 2021 thru December 2021 and the base gas price is based upon Henry Hub spot prices (Platts Gas Daily) during January 2021 thru December 2021. NGL prices were adjusted on a per-property basis and averaged 44.5% of the oil price on a composite basis.

The base prices were adjusted for differentials on a per-property basis, which may include local basis differential, treating cost, transportation, gas shrinkage, gas heating value (BTU content) and/or crude quality and gravity corrections. After these adjustments, the net realized prices for the SEC price case over the life of the proved properties was estimated to be $66.10 per barrel for oil, $0.79 per MCF for natural gas and $29.76 per barrel for NGL. Economic factors were held constant in accordance with SEC guidelines.

Future Development Costs, Expenses and Taxes

Capital expenditures (Future Development Costs), lease operating expenses and ad valorem tax values were forecast as provided by your office. As you explained, the capital costs were based on the most current estimates, lease operating expenses were based on the analysis of historical expenses, operating overhead is included for non-operated properties and no credit or deduction is made for producing overhead paid to the company by other owners of the operated properties. Operating expenses include water disposal costs which are based on historic costs except where an expansion of the water management system has been implemented and historic costs were not available at the time of this report. In these cases, the estimated disposal costs are included herein beginning March 2022. Capital costs and lease operating expenses were held constant in accordance with SEC guidelines. Severance tax rates were applied at normal state percentages of oil, gas and NGL revenue.

SEC Conformance and Regulations

The reserve classifications and the economic considerations used herein conform to the criteria of the SEC as defined in pages 6 and 7 of this report letter. The reserves and economics are predicated on regulatory agency classifications, rules, policies, laws, taxes and royalties currently in effect except as noted herein. Federal, state, and local laws and regulations, which are currently in effect and that govern the development and production of oil and natural gas, have been considered in the evaluation of proved reserves for this report. The possible effects of changes in legislation or other Federal or State restrictive actions which could affect the reserves and economics have not been considered. These possible changes could have an effect on the reserves and economics. However, we do not anticipate nor are we aware of any legislative changes or restrictive regulatory actions that may impact the recovery of reserves.

This evaluation includes 76 proved undeveloped locations, all of which are commercial using required SEC pricing. Each of these commercial drilling locations proposed as part of HighPeak's development plans conforms to the proved undeveloped standards as set forth by the SEC. In our opinion, HighPeak has indicated it has every intent to complete this development plan as scheduled. Furthermore, HighPeak has demonstrated that it has adequate company staffing, financial backing and prior development success to ensure this development plan will be fully executed.

Reserve Estimation Methods

The methods employed in estimating reserves are described on page 5 of this report letter. Reserves for proved developed producing wells were estimated using production performance methods for the vast majority of properties. Certain new producing properties with very little production history were forecast using a combination of production performance and analogy to similar production, both of which are considered to provide a relatively high degree of accuracy.

Non-producing reserve estimates, for both developed and undeveloped properties, were forecast using either volumetric or analogy methods, or a combination of both. These methods provide a relatively high degree of accuracy for predicting proved developed non-producing and proved undeveloped reserves. The assumptions, data, methods and procedures used herein are appropriate for the purpose served by this report.

Miscellaneous

An on-site field inspection of the properties has not been performed nor has the mechanical operation or condition of the wells and their related facilities been examined, nor have the wells been tested by Cawley, Gillespie & Associates, Inc. Possible environmental liability related to the properties has not been investigated nor considered. Further, the net cost of plugging and the salvage value of equipment at abandonment have been included herein for commercial wells.

The reserve estimates and forecasts were based upon interpretations of data furnished by your office and available from our files. Ownership information and economic factors such as liquid and gas prices, price differentials and expenses was furnished by your office. To some extent, information from public records was used to check and/or supplement these data. The basic engineering and geological data were utilized subject to third party reservations and qualifications. Nothing has come to our attention, however, that would cause us to believe that we are not justified in relying on such data. All estimates represent our best judgment based on the data available at the time of preparation. Due to inherent uncertainties in future production rates, commodity prices and geologic conditions, it should be realized that the reserve estimates, the reserves actually recovered, the revenue derived therefrom and the actual cost incurred could be more or less than the estimated amounts.

Closing

Cawley, Gillespie & Associates, Inc. is a Texas Registered Engineering Firm (F-693), made up of independent registered professional engineers and geologists that have provided petroleum consulting services to the oil and gas industry for over 60 years. This evaluation was supervised by W. Todd Brooker, President at Cawley, Gillespie & Associates, Inc. and a State of Texas Licensed Professional Engineer (License #83462), with Professional Qualifications noted on the next page. We do not own an interest in the properties or *HighPeak Energy, Inc.* and are not employed on a contingent basis. We have used all methods and procedures that we consider necessary under the circumstances to prepare this report. Our work-papers and related data utilized in the preparation of these estimates are available in our office.

Yours very truly,
CAWLEY, GILLESPIE & ASSOCIATES, INC.
Texas Registered Engineering Firm F-693

/S/ W. TODD BROOKER
W. TODD BROOKER, P.E.
PRESIDENT

/S/ ROBERT P. BERGERON
ROBERT P. BERGERON, JR., P.E.
RESERVOIR ENGINEER

CAWLEY, GILLESPIE & ASSOCIATES, INC.

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Professional Qualifications of W. Todd Brooker, P.E.

President of Cawley, Gillespie & Associates

Mr. Brooker has been a Petroleum Consultant for Cawley, Gillespie & Associates (CG&A) since 1992, and became President in 2017. His responsibilities include reserve and economic evaluations, fair market valuations, field studies, pipeline resource studies and acquisition/divestiture analysis. His reserve reports are routinely used for public company SEC disclosures. His experience includes significant projects in both conventional and unconventional resources in every major U.S. producing basin and abroad, including oil and gas shale plays, coalbed methane fields, waterfloods and complex, faulted structures. Prior to CG&A he worked in Gulf of Mexico drilling and production engineering at Chevron USA. Mr. Brooker graduated with honors from the University of Texas at Austin in 1989 with a Bachelor of Science degree in Petroleum Engineering. He is a registered professional engineer in Texas, No. 83462, a member of the Society of Petroleum Engineers (SPE) and a member of the Society of Petroleum Evaluation Engineers (SPEE).

CAWLEY, GILLESPIE & ASSOCIATES, INC.
Texas Registered Engineering Firm F-693

APPENDIX

Methods Employed in the Estimation of Reserves

The four methods customarily employed in the estimation of reserves are (1) *production performance*, (2) *material balance*, (3) *volumetric* and (4) *analogy*. Most estimates, although based primarily on one method, utilize other methods depending on the nature and extent of the data available and the characteristics of the reservoirs.

Basic information includes production, pressure, geological and laboratory data. However, a large variation exists in the quality, quantity and types of information available on individual properties. Operators are generally required by regulatory authorities to file monthly production reports and may be required to measure and report periodically such data as well pressures, gas-oil ratios, well tests, etc. As a general rule, an operator has complete discretion in obtaining and/or making available geological and engineering data. The resulting lack of uniformity in data renders impossible the application of identical methods to all properties, and may result in significant differences in the accuracy and reliability of estimates.

A brief discussion of each method, its basis, data requirements, applicability and generalization as to its relative degree of accuracy follows:

Production performance. This method employs graphical analyses of production data on the premise that all factors which have controlled the performance to date will continue to control and that historical trends can be extrapolated to predict future performance. The only information required is production history. Capacity production can usually be analyzed from graphs of rates versus time or cumulative production. This procedure is referred to as "decline curve" analysis. Both capacity and restricted production can, in some cases, be analyzed from graphs of producing rate relationships of the various production components. Reserve estimates obtained by this method are generally considered to have a relatively high degree of accuracy with the degree of accuracy increasing as production history accumulates.

Material balance. This method employs the analysis of the relationship of production and pressure performance on the premise that the reservoir volume and its initial hydrocarbon content are fixed and that this initial hydrocarbon volume and recoveries therefrom can be estimated by analyzing changes in pressure with respect to production relationships. This method requires reliable pressure and temperature data, production data, fluid analyses and knowledge of the nature of the reservoir. The material balance method is applicable to all reservoirs, but the time and expense required for its use is dependent on the nature of the reservoir and its fluids. Reserves for depletion type reservoirs can be estimated from graphs of pressures corrected for compressibility versus cumulative production, requiring only data that are usually available. Estimates for other reservoir types require extensive data and involve complex calculations most suited to computer models which makes this method generally applicable only to reservoirs where there is economic justification for its use. Reserve estimates obtained by this method are generally considered to have a degree of accuracy that is directly related to the complexity of the reservoir and the quality and quantity of data available.

Volumetric. This method employs analyses of physical measurements of rock and fluid properties to calculate the volume of hydrocarbons in-place. The data required are well information sufficient to determine reservoir subsurface datum, thickness, storage volume, fluid content and location. The volumetric method is most applicable to reservoirs which are not susceptible to analysis by production performance or material balance methods. These are most commonly newly developed and/or no-pressure depleting reservoirs. The amount of hydrocarbons in-place that can be recovered is not an integral part of the volumetric calculations but is an estimate inferred by other methods and a knowledge of the nature of the reservoir. Reserve estimates obtained by this method are generally considered to have a low degree of accuracy; but the degree of accuracy can be relatively high where rock quality and subsurface control is good and the nature of the reservoir is uncomplicated.

Analogy. This method, which employs experience and judgment to estimate reserves, is based on observations of similar situations and includes consideration of theoretical performance. The analogy method is a common approach used for “resource plays,” where an abundance of wells with similar production profiles facilitates the reliable estimation of future reserves with a relatively high degree of accuracy. The analogy method may also be applicable where the data are insufficient or so inconclusive that reliable reserve estimates cannot be made by other methods. Reserve estimates obtained in this manner are generally considered to have a relatively low degree of accuracy.

Much of the information used in the estimation of reserves is itself arrived at by the use of estimates. These estimates are subject to continuing change as additional information becomes available. Reserve estimates which presently appear to be correct may be found to contain substantial errors as time passes and new information is obtained about well and reservoir performance.

APPENDIX

Reserve Definitions and Classifications

The Securities and Exchange Commission, in SX Reg. 210.4-10 dated November 18, 1981, as amended on September 19, 1989 and January 1, 2010, requires adherence to the following definitions of oil and gas reserves:

"(22) **Proved oil and gas reserves**. Proved oil and gas reserves are those quantities of oil and gas, which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be economically producible—from a given date forward, from known reservoirs, and under existing economic conditions, operating methods, and government regulations— prior to the time at which contracts providing the right to operate expire, unless evidence indicates that renewal is reasonably certain, regardless of whether deterministic or probabilistic methods are used for the estimation. The project to extract the hydrocarbons must have commenced or the operator must be reasonably certain that it will commence the project within a reasonable time.

"(i) The area of a reservoir considered as proved includes: (A) The area identified by drilling and limited by fluid contacts, if any, and (B) Adjacent undrilled portions of the reservoir that can, with reasonable certainty, be judged to be continuous with it and to contain economically producible oil or gas on the basis of available geoscience and engineering data.

"(ii) In the absence of data on fluid contacts, proved quantities in a reservoir are limited by the lowest known hydrocarbons (LKH) as seen in a well penetration unless geoscience, engineering, or performance data and reliable technology establishes a lower contact with reasonable certainty.

"(iii) Where direct observation from well penetrations has defined a highest known oil (HKO) elevation and the potential exists for an associated gas cap, proved oil reserves may be assigned in the structurally higher portions of the reservoir only if geoscience, engineering, or performance data and reliable technology establish the higher contact with reasonable certainty.

"(iv) Reserves which can be produced economically through application of improved recovery techniques (including, but not limited to, fluid injection) are included in the proved classification when: (A) Successful testing by a pilot project in an area of the reservoir with properties no more favorable than in the reservoir as a whole, the operation of an installed program in the reservoir or an analogous reservoir, or other evidence using reliable technology establishes the reasonable certainty of the engineering analysis on which the project or program was based; and (B) The project has been approved for development by all necessary parties and entities, including governmental entities.

"(v) Existing economic conditions include prices and costs at which economic producibility from a reservoir is to be determined. The price shall be the average price during the 12-month period prior to the ending date of the period covered by the report, determined as an unweighted arithmetic average of the first-day-of-the-month price for each month within such period, unless prices are defined by contractual arrangements, excluding escalations based upon future conditions.

"(6) **Developed oil and gas reserves**. Developed oil and gas reserves are reserves of any category that can be expected to be recovered:

“(i) Through existing wells with existing equipment and operating methods or in which the cost of the required equipment is relatively minor compared to the cost of a new well; and

“(ii) Through installed extraction equipment and infrastructure operational at the time of the reserves estimate if the extraction is by means not involving a well.

"(31) **Undeveloped oil and gas reserves**. Undeveloped oil and gas reserves are reserves of any category that are expected to be recovered from new wells on undrilled acreage, or from existing wells where a relatively major expenditure is required for recompletion.

“(i) Reserves on undrilled acreage shall be limited to those directly offsetting development spacing areas that are reasonably certain of production when drilled, unless evidence using reliable technology exists that establishes reasonable certainty of economic producibility at greater distances.

“(ii) Undrilled locations can be classified as having undeveloped reserves only if a development plan has been adopted indicating that they are scheduled to be drilled within five years, unless the specific circumstances, justify a longer time.

“(iii) Under no circumstances shall estimates for undeveloped reserves be attributable to any acreage for which an application of fluid injection or other improved recovery technique is contemplated, unless such techniques have been proved effective by actual projects in the same reservoir or an analogous reservoir, as defined in paragraph (a)(2) of this section, or by other evidence using reliable technology establishing reasonable certainty.

"(18) **Probable reserves**. Probable reserves are those additional reserves that are less certain to be recovered than proved reserves but which, together with proved reserves, are as likely as not to be recovered.

“(i) When deterministic methods are used, it is as likely as not that actual remaining quantities recovered will exceed the sum of estimated proved plus probable reserves. When probabilistic methods are used, there should be at least a 50% probability that the actual quantities recovered will equal or exceed the proved plus probable reserves estimates.

“(ii) Probable reserves may be assigned to areas of a reservoir adjacent to proved reserves where data control or interpretations of available data are less certain, even if the interpreted reservoir continuity of structure or productivity does not meet the reasonable certainty criterion. Probable reserves may be assigned to areas that are structurally higher than the proved area if these areas are in communication with the proved reservoir.

“(iii) Probable reserves estimates also include potential incremental quantities associated with a greater percentage recovery of the hydrocarbons in place than assumed for proved reserves.

“(iv) See also guidelines in paragraphs (17)(iv) and (17)(vi) of this section (below).

"(17) **Possible reserves**. Possible reserves are those additional reserves that are less certain to be recovered than probable reserves.

“(i) When deterministic methods are used, the total quantities ultimately recovered from a project have a low probability of exceeding proved plus probable plus possible reserves. When probabilistic methods are used, there should be at least a 10% probability that the total quantities ultimately recovered will equal or exceed the proved plus probable plus possible reserves estimates.

“(ii) Possible reserves may be assigned to areas of a reservoir adjacent to probable reserves where data control and interpretations of available data are progressively less certain. Frequently, this will be in areas where geoscience and engineering data are unable to define clearly the area and vertical limits of commercial production from the reservoir by a defined project.

“(iii) Possible reserves also include incremental quantities associated with a greater percentage recovery of the hydrocarbons in place than the recovery quantities assumed for probable reserves.

“(iv) The proved plus probable and proved plus probable plus possible reserves estimates must be based on reasonable alternative technical and commercial interpretations within the reservoir or subject project that are clearly documented, including comparisons to results in successful similar projects.

“(v) Possible reserves may be assigned where geoscience and engineering data identify directly adjacent portions of a reservoir within the same accumulation that may be separated from proved areas by faults with displacement less than formation thickness or other geological discontinuities and that have not been penetrated by a wellbore, and the registrant believes that such adjacent portions are in communication with the known (proved) reservoir. Possible reserves may be assigned to areas that are structurally higher or lower than the proved area if these areas are in communication with the proved reservoir.

“(vi) Pursuant to paragraph (22)(iii) of this section (above), where direct observation has defined a highest known oil (HKO) elevation and the potential exists for an associated gas cap, proved oil reserves should be assigned in the structurally higher portions of the reservoir above the HKO only if the higher contact can be established with reasonable certainty through reliable technology. Portions of the reservoir that do not meet this reasonable certainty criterion may be assigned as probable and possible oil or gas based on reservoir fluid properties and pressure gradient interpretations.”

Instruction 4 of Item 2(b) of Securities and Exchange Commission Regulation S-K was revised January 1, 2010 to state that "a registrant engaged in oil and gas producing activities shall provide the information required by Subpart 1200 of Regulation S–K." This is relevant in that Instruction 2 to paragraph (a)(2) states: “The registrant is *permitted, but not required*, to disclose probable or possible reserves pursuant to paragraphs (a)(2)(iv) through (a)(2)(vii) of this Item.”

"(26) **Reserves**. Reserves are estimated remaining quantities of oil and gas and related substances anticipated to be economically producible, as of a given date, by application of development projects to known accumulations. In addition, there must exist, or there must be a reasonable expectation that there will exist, the legal right to produce or a revenue interest in the production, installed means of delivering oil and gas or related substances to market, and all permits and financing required to implement the project.

“Note to paragraph (26): Reserves should not be assigned to adjacent reservoirs isolated by major, potentially sealing, faults until those reservoirs are penetrated and evaluated as economically producible. Reserves should not be assigned to areas that are clearly separated from a known accumulation by a non-productive reservoir (i.e., absence of reservoir, structurally low reservoir, or negative test results). Such areas may contain prospective resources (i.e., potentially recoverable resources from undiscovered accumulations).”

EVALUATION SUMMARY

HIGHPEAK ENERGY, INC. INTERESTS

TOTAL PROVED RESERVES

CERTAIN PROPERTIES IN HOWARD COUNTY, TEXAS

AS OF DECEMBER 31, 2021

FLAT PRICE CASE

CG&A

CAWLEY, GILLESPIE & ASSOCIATES, INC.

PETROLEUM CONSULTANTS

EVALUATION SUMMARY

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AS OF DECEMBER 31, 2021

FLAT PRICE CASE

CAWLEY, GILLESPIE & ASSOCIATES, INC.
PETROLEUM CONSULTANTS
Texas Registered Engineering Firm F-693

/S/ W. TODD BROOKER
W. TODD BROOKER, P.E.
PRESIDENT

/S/ ROBERT P. BERGERON
ROBERT P. BERGERON, JR., P.E.
RESERVOIR ENGINEER

CAWLEY, GILLESPIE & ASSOCIATES, INC.

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January 27, 2022

Mr. Jack Hightower
Chairman & CEO
HighPeak Energy, Inc.
421 W 3rd St, Suite 1000
Fort Worth, Texas 76102

Re: Evaluation Summary - Flat Price Case
HighPeak Energy, Inc. Interests
Total Proved Reserves
Certain Properties in Howard County, Texas
As of December 31, 2021

Dear Mr. Hightower:

As requested, we are submitting our estimates of total proved reserves and forecasts of economics attributable to the *HighPeak Energy, Inc.* ("HighPeak") interests in certain properties in Howard County, Texas. This report utilized an effective date of December 31, 2021 and was prepared using constant hydrocarbon pricing as set forth in a subsequent paragraph of this letter. A composite summary of the results of this evaluation are presented below:

		Proved Developed Producing	Proved Developed Non-Producing	Proved Developed	Proved Undeveloped	Total Proved
Net Reserves						
Oil	- Mbbl	15,818.7	6,908.7	22,727.4	29,317.8	52,045.2
Gas	- MMcf	11,500.1	3,235.2	14,735.3	15,511.1	30,246.4
NGL	- Mbbl	2,772.5	796.2	3,568.7	3,853.8	7,422.5
Net Revenue						
Oil	- M$	1,131,404.3	494,163.6	1,625,568.1	2,097,474.6	3,723,042.8
Gas	- M$	11,533.1	2,237.3	13,770.4	14,146.7	27,917.2
NGL	- M$	86,585.3	26,531.8	113,117.1	125,772.6	238,889.7
Severance Taxes	- M$	59,403.5	24,889.2	84,292.7	106,977.8	191,270.5
Ad Valorem Taxes	- M$	29,253.0	12,451.1	41,704.1	53,260.4	94,964.4
Operating Expenses	- M$	201,980.3	64,017.9	265,998.2	270,375.2	536,373.4
Abandonment Costs	- M$	4,228.0	846.5	5,074.5	3,719.5	8,794.0
Other Deductions	- M$	17,407.4	4,714.8	22,122.2	18,802.6	40,924.8
Future Development Costs	- M$	0.0	31,129.2	31,129.2	389,487.7	420,616.8
Net Operating Income (BFIT)	- M$	917,250.6	384,884.1	1,302,134.8	1,394,771.1	2,696,905.7
Discounted @ 10%	**- M$**	**582,023.2**	**233,400.1**	**815,423.1**	**682,218.6**	**1,497,642.2**

Future revenue is prior to deducting state production taxes and ad valorem taxes. Future net cash flow is after deducting these taxes, future capital (development) costs and operating expenses, but before consideration of federal income taxes. The future net cash flow has been discounted at an annual rate of ten percent to determine its "present worth". The present worth is shown to indicate the effect of time on the value of money and should not be construed as being the fair market value of the reserves by Cawley, Gillespie & Associates, Inc. ("CG&A").

The oil reserves include oil and condensate. Oil volumes and NGL volumes are expressed in barrels (42 U.S. gallons). Gas volumes are expressed in thousands of standard cubic feet (Mcf) at contract temperature and pressure base.

Hydrocarbon Pricing

As requested for the flat pricing scenario, oil and gas prices were adjusted to the following index prices:

Year	WTI Cushing Oil Price ($/BBL)	Henry Hub Gas Price ($/MMBTU)
2022	72.00	3.750
Thereafter	Flat	Flat
Cap	72.00	3.750

In the flat price scenario, base prices were adjusted for differentials on a per-property basis, which may include local basis differential, treating cost, transportation, gas shrinkage, gas heating value (BTU content) and/or crude quality and gravity corrections. After these adjustments, the net realized prices for the flat price case over the life of the proved properties was estimated to be $71.54 per barrel for oil, $0.92 per MCF for natural gas and $32.18 per barrel for NGL.

Future Development Costs, Expenses and Taxes

Capital expenditures (Future Development Costs), lease operating expenses and ad valorem tax values were forecast as provided by your office. As you explained, the capital costs were based on the most current estimates, lease operating expenses were based on the analysis of historical expenses, operating overhead is included for non-operated properties and no credit or deduction is made for producing overhead paid to the company by other owners of the operated properties. Operating expenses include water disposal costs which are based on historic costs except where an expansion of the water management system has been implemented and historic costs were not available at the time of this report. In these cases, the estimated disposal costs are included herein beginning March 2022. Capital costs and lease operating expenses were held constant. Severance tax rates were applied at normal state percentages of oil, gas and NGL revenue.

Reserve Estimation Methods

The methods employed in estimating reserves are described on page 5 in the Appendix. Reserves for proved developed producing wells were estimated using production performance methods for the vast majority of properties. Certain new producing properties with very little production history were forecast using a combination of production performance and analogy to similar production, both of which are considered to provide a relatively high degree of accuracy.

Non-producing reserve estimates, for both developed and undeveloped properties, were forecast using either volumetric or analogy methods, or a combination of both. These methods provide a relatively high degree of accuracy for predicting proved developed non-producing and proved undeveloped reserves. Developed reserves include 17 PDNP wells expected to start production by May 2022. Undeveloped reserves include 76 locations all of which are commercial in this evaluation. The assumptions, data, methods and procedures used herein are appropriate for the purpose served by this report.

Miscellaneous

An on-site field inspection of the properties has not been performed nor has the mechanical operation or condition of the wells and their related facilities been examined, nor have the wells been tested by Cawley, Gillespie & Associates, Inc. Possible environmental liability related to the properties has not been investigated nor considered. Further, the net cost of plugging and the salvage value of equipment at abandonment have been included herein for commercial wells.

The proved reserve classifications used herein conform to the criteria of the Society of Petroleum Engineers Petroleum Resources Management System as defined in pages 6 through 10 in the Appendix. The reserves and economics are predicated on regulatory agency classifications, rules, policies, laws, taxes and royalties in effect on the effective date, except as noted herein. The possible effects of changes in legislation or other Federal or State restrictive actions have not been considered. All reserve estimates represent our best judgment based on data available at the time of preparation, and assumptions as to future economic and regulatory conditions. It should be realized that the reserves actually recovered, the revenue derived therefrom and the actual cost incurred could be more or less than the estimated amounts.

The reserve estimates and forecasts were based upon interpretations of data furnished by your office and available from our files. Ownership information and economic factors such as liquid and gas prices, price differentials and expenses was furnished by your office. To some extent, information from public records was used to check and/or supplement these data. The basic engineering and geological data were utilized subject to third party reservations and qualifications. Nothing has come to our attention, however, that would cause us to believe that we are not justified in relying on such data. All estimates represent our best judgment based on the data available at the time of preparation. Due to inherent uncertainties in future production rates, commodity prices and geologic conditions, it should be realized that the reserve estimates, the reserves actually recovered, the revenue derived therefrom and the actual cost incurred could be more or less than the estimated amounts.

Closing

Cawley, Gillespie & Associates, Inc. is a Texas Registered Engineering Firm (F-693), made up of independent registered professional engineers and geologists that have provided petroleum consulting services to the oil and gas industry for over 60 years. This evaluation was supervised by W. Todd Brooker, President at Cawley, Gillespie & Associates, Inc. and a State of Texas Licensed Professional Engineer (License #83462), with Professional Qualifications noted on the next page. We do not own an interest in the properties or *HighPeak Energy, Inc.* and are not employed on a contingent basis. We have used all methods and procedures that we consider necessary under the circumstances to prepare this report. Our work-papers and related data utilized in the preparation of these estimates are available in our office.

Yours very truly,

CAWLEY, GILLESPIE & ASSOCIATES, INC.
Texas Registered Engineering Firm F-693

/S/ W. TODD BROOKER
W. TODD BROOKER, P.E.
PRESIDENT

/S/ ROBERT P. BERGERON
ROBERT P. BERGERON, JR., P.E.
RESERVOIR ENGINEER

APPENDIX

Methods Employed in the Estimation of Reserves

The four methods customarily employed in the estimation of reserves are (1) *production performance*, (2) *material balance*, (3) *volumetric* and (4) *analogy*. Most estimates, although based primarily on one method, utilize other methods depending on the nature and extent of the data available and the characteristics of the reservoirs.

Basic information includes production, pressure, geological and laboratory data. However, a large variation exists in the quality, quantity and types of information available on individual properties. Operators are generally required by regulatory authorities to file monthly production reports and may be required to measure and report periodically such data as well pressures, gas-oil ratios, well tests, etc. As a general rule, an operator has complete discretion in obtaining and/or making available geological and engineering data. The resulting lack of uniformity in data renders impossible the application of identical methods to all properties, and may result in significant differences in the accuracy and reliability of estimates.

A brief discussion of each method, its basis, data requirements, applicability and generalization as to its relative degree of accuracy follows:

Production performance. This method employs graphical analyses of production data on the premise that all factors which have controlled the performance to date will continue to control and that historical trends can be extrapolated to predict future performance. The only information required is production history. Capacity production can usually be analyzed from graphs of rates versus time or cumulative production. This procedure is referred to as "decline curve" analysis. Both capacity and restricted production can, in some cases, be analyzed from graphs of producing rate relationships of the various production components. Reserve estimates obtained by this method are generally considered to have a relatively high degree of accuracy with the degree of accuracy increasing as production history accumulates.

Material balance. This method employs the analysis of the relationship of production and pressure performance on the premise that the reservoir volume and its initial hydrocarbon content are fixed and that this initial hydrocarbon volume and recoveries therefrom can be estimated by analyzing changes in pressure with respect to production relationships. This method requires reliable pressure and temperature data, production data, fluid analyses and knowledge of the nature of the reservoir. The material balance method is applicable to all reservoirs, but the time and expense required for its use is dependent on the nature of the reservoir and its fluids. Reserves for depletion type reservoirs can be estimated from graphs of pressures corrected for compressibility versus cumulative production, requiring only data that are usually available. Estimates for other reservoir types require extensive data and involve complex calculations most suited to computer models which makes this method generally applicable only to reservoirs where there is economic justification for its use. Reserve estimates obtained by this method are generally considered to have a degree of accuracy that is directly related to the complexity of the reservoir and the quality and quantity of data available.

Volumetric. This method employs analyses of physical measurements of rock and fluid properties to calculate the volume of hydrocarbons in-place. The data required are well information sufficient to determine reservoir subsurface datum, thickness, storage volume, fluid content and location. The volumetric method is most applicable to reservoirs which are not susceptible to analysis by production performance or material balance methods. These are most commonly newly developed and/or no-pressure depleting reservoirs. The amount of hydrocarbons in-place that can be recovered is not an integral part of the volumetric calculations but is an estimate inferred by other methods and a knowledge of the nature of the reservoir. Reserve estimates obtained by this method are generally considered to have a low degree of accuracy; but the degree of accuracy can be relatively high where rock quality and subsurface control is good and the nature of the reservoir is uncomplicated.

Analogy. This method, which employs experience and judgment to estimate reserves, is based on observations of similar situations and includes consideration of theoretical performance. The analogy method is a common approach used for “resource plays,” where an abundance of wells with similar production profiles facilitates the reliable estimation of future reserves with a relatively high degree of accuracy. The analogy method may also be applicable where the data are insufficient or so inconclusive that reliable reserve estimates cannot be made by other methods. Reserve estimates obtained in this manner are generally considered to have a relatively low degree of accuracy.

Much of the information used in the estimation of reserves is itself arrived at by the use of estimates. These estimates are subject to continuing change as additional information becomes available. Reserve estimates which presently appear to be correct may be found to contain substantial errors as time passes and new information is obtained about well and reservoir performance.

APPENDIX

Petroleum Reserves and Resources Classifications, Definitions and Guidelines

Reference is made herein to the Petroleum Resources Management System approved by the Society of Petroleum Engineers (SPE) Board of Directors, June 2018.

Reference is made herein to the Petroleum Reserves and Resources Classification, Definitions and Guidelines jointly published in 2018 by the Society of Petroleum Engineers (SPE), the World Petroleum Council (WPC), the American Association of Petroleum Geologists (AAPG), the Society of Petroleum Evaluation Engineers (SPEE), the Society of Exploration Geophysicists (SEG), the Society of Petrophysicists and Well Log Analysts (SPWLA), and the European Association of Geoscientists & Engineers (EAGE), hereinafter denoted as the SPE-PRMS Definitions.

Table 1: Recoverable Resources Classes and Sub-Classes

RESERVES

Reserves are those quantities of petroleum anticipated to be commercially recoverable by application of development projects to known accumulations from a given date forward under defined conditions.

Reserves must satisfy four criteria: discovered, recoverable, commercial, and remaining based on the development project(s) applied. Reserves are further categorized in accordance with the level of certainty associated with the estimates and may be sub-classified based on project maturity and/or characterized by the development and production status.

To be included in the Reserves class, a project must be sufficiently defined to establish its commercial viability. This includes the requirement that there is evidence of firm intention to proceed with development within a reasonable time-frame.

A reasonable time-frame for the initiation of development depends on the specific circumstances and varies according to the scope of the project. While five years is recommended as a benchmark, a longer time-frame could be applied where, for example, development of an economic project is deferred at the option of the producer for, among other things, market- related reasons or to meet contractual or strategic objectives. In all cases, the justification for classification as Reserves should be clearly documented.

To be included in the Reserves class, there must be a high confidence in the commercial maturity and economic producibility of the reservoir as supported by actual production or formation tests. In certain cases, Reserves may be assigned on the basis of well logs and/or core analysis that indicate that the subject reservoir is hydrocarbon-bearing and is analogous to reservoirs in the same area that are producing or have demonstrated the ability to produce on formation tests.

On Production: The development project is currently producing or capable of producing and selling petroleum to market.

The key criterion is that the project is receiving income from sales, rather than that the approved development project is necessarily complete. Includes Developed Producing Reserves.

The project decision gate is the decision to initiate or continue economic production from the project.

Approved for Development: All necessary approvals have been obtained, capital funds have been committed, and implementation of the development project is ready to begin or is under way.

At this point, it must be certain that the development project is going ahead. The project must not be subject to any contingencies, such as outstanding regulatory approvals or sales contracts. Forecast capital expenditures should be included in the reporting entity’s current or following year’s approved budget.

The project decision gate is the decision to start investing capital in the construction of production facilities and/or drilling development wells.

Justified for Development: Implementation of the development project is justified on the basis of reasonable forecast commercial conditions at the time of reporting, and there are reasonable expectations that all necessary approvals/contracts will be obtained.

To move to this level of project maturity, and hence have Reserves associated with it, the development project must be commercially viable at the time of reporting and the specific circumstances of the project. All participating entities have agreed and there is evidence of a committed project (firm intention to proceed with development within a reasonable time- frame) There must be no known contingencies that could preclude the development from proceeding (see Reserves class).

The project decision gate is the decision by the reporting entity and its partners, if any, that the project has reached a level of technical and commercial maturity sufficient to justify proceeding with development at that point in time.

CONTINGENT RESOURCES
Those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations by application of development projects, but which are not currently considered to be commercially recoverable owing to one or more contingencies.

Contingent Resources may include, for example, projects for which there are currently no viable markets, where commercial recovery is dependent on technology under development, where evaluation of the accumulation is insufficient to clearly assess commerciality, where the development plan is not yet approved, or where regulatory or social acceptance issues may exist.

Contingent Resources are further categorized in accordance with the level of certainty associated with the estimates and may be sub-classified based on project maturity and/or characterized by the economic status.

Development Pending: A discovered accumulation where project activities are ongoing to justify commercial development in the foreseeable future.

The project is seen to have reasonable potential for eventual commercial development, to the extent that further data acquisition (e.g., drilling, seismic data) and/or evaluations are currently ongoing with a view to confirming that the project is commercially viable and providing the basis for selection of an appropriate development plan. The critical contingencies have been identified and are reasonably expected to be resolved within a reasonable time-frame. Note that disappointing appraisal/evaluation results could lead to a reclassification of the project to On Hold or Not Viable status.

The project decision gate is the decision to undertake further data acquisition and/or studies designed to move the project to a level of technical and commercial maturity at which a decision can be made to proceed with development and production.

Development on Hold: A discovered accumulation where project activities are on hold and/or where justification as a commercial development may be subject to significant delay.

The project is seen to have potential for commercial development. Development may be subject to a significant time delay. Note that a change in circumstances, such that there is no longer a probable chance that a critical contingency can be removed in the foreseeable future, could lead to a reclassification of the project to Not Viable status.

The project decision gate is the decision to either proceed with additional evaluation designed to clarify the potential for eventual commercial development or to temporarily suspend or delay further activities pending resolution of external contingencies.

Development Unclarified: A discovered accumulation where project activities are under evaluation and where justification as a commercial development is unknown based on available information.

The project is seen to have potential for eventual commercial development, but further appraisal/evaluation activities are ongoing to clarify the potential for eventual commercial development.

This sub-class requires active appraisal or evaluation and should not be maintained without a plan for future evaluation. The sub-class should reflect the actions required to move a project toward commercial maturity and economic production.

Development Not Viable: A discovered accumulation for which there are no current plans to develop or to acquire additional data at the time because of limited production potential.

The project is not seen to have potential for eventual commercial development at the time of reporting, but the theoretically recoverable quantities are recorded so that the potential opportunity will be recognized in the event of a major change in technology or commercial conditions.

The project decision gate is the decision not to undertake further data acquisition or studies on the project for the foreseeable future.

PROSPECTIVE RESOURCES
Those quantities of petroleum that are estimated, as of a given date, to be potentially recoverable from undiscovered accumulations.

Potential accumulations are evaluated according to the chance of geologic discovery and, assuming a discovery, the estimated quantities that would be recoverable under defined development projects. It is recognized that the development programs will be of significantly less detail and depend more heavily on analog developments in the earlier phases of exploration.

Prospect: A project associated with a potential accumulation that is sufficiently well defined to represent a viable drilling target.

Project activities are focused on assessing the chance of geologic discovery and, assuming discovery, the range of potential recoverable quantities under a commercial development program.

Lead: A project associated with a potential accumulation that is currently poorly defined and requires more data acquisition and/or evaluation to be classified as a Prospect.

Project activities are focused on acquiring additional data and/or undertaking further evaluation designed to confirm whether or not the Lead can be matured into a Prospect. Such evaluation includes the assessment of the chance of geologic discovery and, assuming discovery, the range of potential recovery under feasible development scenarios.

Play: A project associated with a prospective trend of potential prospects, but that requires more data acquisition and/or evaluation to define specific Leads or Prospects.

Project activities are focused on acquiring additional data and/or undertaking further evaluation designed to define specific Leads or Prospects for more detailed analysis of their chance of geologic discovery and, assuming discovery, the range of potential recovery under hypothetical development scenarios.

Table 2: Reserves Status Definitions and Guidelines

DEVELOPED RESERVES
Developed Reserves are expected quantities to be recovered from existing wells and facilities.

Reserves are considered developed only after the necessary equipment has been installed, or when the costs to do so are relatively minor compared to the cost of a well. Where required facilities become unavailable, it may be necessary to reclassify Developed Reserves as Undeveloped. Developed Reserves may be further sub-classified as Producing or Non-Producing.

Developed Producing Reserves: Developed Producing Reserves are expected quantities to be recovered from completion intervals that are open and producing at the effective date of the estimate.

Improved recovery Reserves are considered producing only after the improved recovery project is in operation.

Developed Non-Producing Reserves: Developed Non-Producing Reserves include Shut-in and Behind-pipe Reserves.

Shut-in Reserves are expected to be recovered from (1) completion intervals that are open at the time of the estimate but which have not yet started producing, (2) wells which were shut-in for market conditions or pipeline connections, or (3) wells not capable of production for mechanical reasons. Behind-pipe Reserves are expected to be recovered from zones in existing wells that will require additional completion work or future re-completion before start of production with minor cost to access these reserves.

In all cases, production can be initiated or restored with relatively low expenditure compared to the cost of drilling a new well.

UNDEVELOPED RESERVES
Undeveloped Reserves are quantities expected to be recovered through future significant investments.

Undeveloped Reserves are to be produced (1) from new wells on undrilled acreage in known accumulations, (2) from deepening existing wells to a different (but known) reservoir, (3) from infill wells that will increase recovery, or (4) where a relatively large expenditure (e.g., when compared to the cost of drilling a new well) is required to (a) recomplete an existing well or (b) install production or transportation facilities for primary or improved recovery projects.

Table 3: Reserves Category Definitions and Guidelines

PROVED RESERVES
Proved Reserves are those quantities of petroleum that, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be commercially recoverable from a given date forward from known reservoirs and under defined economic conditions, operating methods, and government regulations.

If deterministic methods are used, the term “reasonable certainty” is intended to express a high degree of confidence that the quantities will be recovered. If probabilistic methods are used, there should be at least a 90% probability (P90) that the quantities actually recovered will equal or exceed the estimate.

The area of the reservoir considered as Proved includes (1) the area delineated by drilling and defined by fluid contacts, if any, and (2) adjacent undrilled portions of the reservoir that can reasonably be judged as continuous with it and commercially productive on the basis of available geoscience and engineering data.

In the absence of data on fluid contacts, Proved quantities in a reservoir are limited by the lowest known hydrocarbon (LKH) as seen in a well penetration unless otherwise indicated by definitive geoscience, engineering, or performance data. Such definitive information may include pressure gradient analysis and seismic indicators. Seismic data alone may not be sufficient to define fluid contacts for Proved.

Reserves in undeveloped locations may be classified as Proved provided that:

A. The locations are in undrilled areas of the reservoir that can be judged with reasonable certainty to be commercially mature and economically productive.
B. Interpretations of available geoscience and engineering data indicate with reasonable certainty that theobjective formation is laterally continuous with drilled Proved locations.

For Proved Reserves, the recovery efficiency applied to these reservoirs should be defined based on a range of possibilities supported by analogs and sound engineering judgment considering the characteristics of the Proved area and the applied development program.

PROBABLE RESERVES
Probable Reserves are those additional Reserves that analysis of geoscience and engineering data indicates are less likely to be recovered than Proved Reserves but more certain to be recovered than Possible Reserves.

It is equally likely that actual remaining quantities recovered will be greater than or less than the sum of the estimated Proved plus Probable Reserves (2P). In this context, when probabilistic methods are used, there should be at least a 50% probability (P50) that the actual quantities recovered will equal or exceed the 2P estimate.

Probable Reserves may be assigned to areas of a reservoir adjacent to Proved where data control or interpretations of available data are less certain. The interpreted reservoir continuity may not meet the reasonable certainty criteria.

Probable estimates also include incremental recoveries associated with project recovery efficiencies beyond that assumed for Proved.

POSSIBLE RESERVES
Possible Reserves are those additional reserves that analysis of geoscience and engineering data indicates are less likely to be recoverable than Probable Reserves.

The total quantities ultimately recovered from the project have a low probability to exceed the sum of Proved plus Probable plus Possible (3P), which is equivalent to the high-estimate scenario. When probabilistic methods are used, there should be at least a 10% probability (P10) that the actual quantities recovered will equal or exceed the 3P estimate.

Possible Reserves may be assigned to areas of a reservoir adjacent to Probable where data control and interpretations of available data are progressively less certain. Frequently, this may be in areas where geoscience and engineering data are unable to clearly define the area and vertical reservoir limits of economic production from the reservoir by a defined, commercially mature project.

Possible estimates also include incremental quantities associated with project recovery efficiencies beyond that assumed for Probable.

PROBABLE AND POSSIBLE RESERVES
See above for separate criteria for Probable Reserves and Possible Reserves.

The 2P and 3P estimates may be based on reasonable alternative technical interpretations within the reservoir and/or subject project that are clearly documented, including comparisons to results in successful similar projects.

In conventional accumulations, Probable and/or Possible Reserves may be assigned where geoscience and engineering data identify directly adjacent portions of a reservoir within the same accumulation that may be separated from Proved areas by minor faulting or other geological discontinuities and have not been penetrated by a wellbore but are interpreted to be in communication with the known (Proved) reservoir. Probable or Possible Reserves may be assigned to areas that are structurally higher than the Proved area. Possible (and in some cases, Probable) Reserves may be assigned to areas that are structurally lower than the adjacent Proved or 2P area.

Caution should be exercised in assigning Reserves to adjacent reservoirs isolated by major, potentially sealing faults until this reservoir is penetrated and evaluated as commercially mature and economically productive. Justification for assigning Reserves in such cases should be clearly documented. Reserves should not be assigned to areas that are clearly separated from a known accumulation by non-productive reservoir (i.e., absence of reservoir, structurally low reservoir, or negative test results); such areas may contain Prospective Resources.

In conventional accumulations, where drilling has defined a highest known oil (HKO) elevation and there exists the potential for an associated gas cap, Proved Reserves of oil should only be assigned in the structurally higher portions of the reservoir if there is reasonable certainty that such portions are initially above bubble point pressure based on documented engineering analyses. Reservoir portions that do not meet this certainty may be assigned as Probable and Possible oil and/or gas based on reservoir fluid properties and pressure gradient interpretations.