

GASTAR EXPLORATION INC.

FORM POS AM

(Post-Effective Amendment to Registration Statement)

Filed 12/22/17

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| Address | 1331 LAMAR STREET SUITE 650 HOUSTON, TX, 77010 |
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| Sector | Energy |
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**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

**Post-Effective Amendment No. 1
to
FORM S-3
on
FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933**

Gastar Exploration Inc.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

1311
(Primary Standard Industrial
Classification Code Number)

38-3531640
(I.R.S. Employer
Identification No.)

**1331 Lamar Street, Suite 650
Houston, Texas 77010
(713) 739-1800**

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

**J. Russell Porter
1331 Lamar Street, Suite 650
Houston, Texas 77010
(713) 739-1800**

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

**James M. Prince
Vinson & Elkins L.L.P.
1001 Fannin, Suite 2500
Houston, Texas 77002
Telephone: (713) 758-2222**

Approximate date of commencement of proposed sale of the securities to the public: As soon as practicable after the effective date of this Registration Statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933 check the following box:

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer (Do not check if a smaller reporting company)

Smaller reporting company

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.

The registrant hereby amends this Registration Statement, as amended by this Post-Effective Amendment No. 1, on such date or dates as may be necessary to delay the effective date of this Registration Statement, as amended by this Post-effective Amendment No. 1, until the registrant shall file a further amendment that specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act or until this Registration Statement, as amended by this Post-Effective Amendment No. 1, shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

DEREGISTRATION OF SECURITIES AND EXPLANATORY NOTE

On April 4, 2017, the registrant filed a registration statement with the Securities and Exchange Commission (the “SEC”) on Form S-3 (Registration No. 333-217168) (the “Registration Statement”), as amended by Amendment No. 1 to Form S-3 dated May 22, 2017, which was declared effective by the SEC on June 2, 2017 (the “Form S-3”), to register (i) the sale of up to \$300 million of securities pursuant to primary offerings by the registrant (the “Primary Securities”) and (ii) for resale by the selling stockholders named therein up to 169,933,626 shares of the registrant’s common stock, par value \$0.001 (the “Resale Securities”).

This Post-Effective Amendment No. 1 to Form S-3 on Form S-1 is being filed by the registrant to (i) deregister the Primary Securities, which all remain unsold, and (ii) convert the Form S-3 into a registration statement on Form S-1 because the registrant does not satisfy the registrant eligibility requirements of Form S-3.

The registrant hereby amends the Registration Statement to remove from registration the Primary Securities covered by the Registration Statement, which all remain unsold.

Additionally, this Post-Effective Amendment No. 1 to Form S-3 on Form S-1 contains an updated prospectus relating to the offering and sale of the Resale Securities by the selling stockholders. All filing fees payable in connection with the registration of the Primary Securities and the Resale Securities covered by the Registration Statement were paid by the registrant at the time of the initial filing of the Form S-3.

The information in this preliminary prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted

SUBJECT TO COMPLETION, DATED DECEMBER 22, 2017

PROSPECTUS

169,933,626 Shares



GASTAR EXPLORATION INC.

Common Stock

This prospectus relates to the resale or other disposition of up to 169,933,626 shares of our common stock par value \$0.001 per share, which may be offered for sale from time to time by the selling stockholders named in this prospectus. We are not selling any shares of common stock under this prospectus and will not receive any proceeds from the sale of any shares of common stock by the selling stockholders. The selling stockholders will bear all commissions and discounts, if any, attributable to the sale or other disposition of the shares of common stock. We will bear all costs, expenses and fees in connection with the registration of the shares of common stock.

Our common stock trades on the NYSE MKT LLC (the "NYSE MKT") under the symbol "GST." The last reported sales price of our common stock on December 21, 2017 was \$1.00 per share. You are urged to obtain current market quotations for the common stock.

The selling stockholders may from time to time sell, transfer or otherwise dispose of any or all of their shares of common stock in a number of different ways and at varying prices. See "Plan of Distribution" for more information.

We may amend or supplement this prospectus from time to time by filing amendments or supplements as required. You should read this entire prospectus and any amendments or supplements carefully before you make your investment decision.

Investing in our securities involves risk. Please see "Risk Factors" beginning on page 3 for a discussion of certain risks that you should consider in connection with an investment in the securities.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

This prospectus is dated _____, 2017.

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This prospectus is part of a registration statement that we have filed with the SEC pursuant to which the selling stockholders named herein may, from time to time, offer and sell or otherwise dispose of the shares of our common stock covered by this prospectus. You should not assume that the information contained in this prospectus is accurate on any date subsequent to the date set forth on the front cover of this prospectus or that any information we have incorporated by reference is correct on any date subsequent to the date of the document incorporated by reference, even though this prospectus is delivered or shares of common stock are sold or otherwise disposed of on a later date. It is important for you to read and consider all information contained in this prospectus, including the documents incorporated by reference therein, in making your investment decision. You should also read and consider the information in the documents to which we have referred you under the caption “Where You Can Find More Information” in this prospectus.

We have not authorized any dealer, salesman or other person to give any information or to make any representation other than those contained or incorporated by reference in this prospectus. You must not rely upon any information or representation not contained or incorporated by reference in this prospectus. This prospectus does not constitute an offer to sell or the solicitation of an offer to buy any of our shares of common stock other than the shares of our common stock covered hereby, nor does this prospectus constitute an offer to sell or the solicitation of an offer to buy any securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction.

This prospectus contains forward-looking statements that are subject to a number of risks and uncertainties, many of which are beyond our control. See “Risk Factors” and “Cautionary Note Regarding Forward-Looking Statements.”

Industry and Market Data

The market data and certain other statistical information used throughout this prospectus are based on independent industry publications, government publications and other published independent sources. Some data is also based on our good faith estimates. Although we believe these third-party sources are reliable as of their respective dates, neither we nor the selling stockholders have independently verified the accuracy or completeness of this information. The industry in which we operate is subject to a high degree of uncertainty and risk due to a variety of factors, including those described in the section entitled “Risk Factors.” These and other factors could cause results to differ materially from those expressed in these publications.

Trademarks and Trade Names

We own or have rights to various trademarks, service marks and trade names that we use in connection with the operation of our business. This prospectus may also contain trademarks, service marks and trade names of third

parties, which are the property of their respective owners. Our use or display of third parties' trademarks, service marks, trade names or products in this prospectus is not intended to, and does not imply a relationship with, or endorsement or sponsorship by us. Solely for convenience, the trademarks, service marks and trade names referred to in this prospectus may appear without the ®, TM or SM symbols, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the right of the applicable licensor to these trademarks, service marks and trade names.

PROSPECTUS SUMMARY

This summary description about us and information contained elsewhere in this prospectus does not contain all the information you should consider before investing in our securities. Important information is incorporated by reference into this prospectus. To understand this offering fully, you should read carefully the entire prospectus, including "Risk Factors," together with the additional information described under "Information Incorporated By Reference."

Our Company

We are a pure-play Mid-Continent independent energy company engaged in the exploration, development and production of oil, condensate, natural gas and natural gas liquids ("NGLs"). Our principal business activities include the identification, acquisition and subsequent exploration and development of oil and natural gas properties with an emphasis on unconventional reserves, such as shale resource plays. We hold a concentrated acreage position in the normally pressured oil window of the STACK Play, an area of central Oklahoma which is home to multiple oil and natural gas-rich reservoirs, including the Meramec and Osage formations within the Mississippi Lime, the Oswego limestone, the Woodford shale and Hunton limestone formations.

Corporate Information

Our principal executive offices are located at 1331 Lamar Street, Suite 650, Houston, Texas 77010. Our telephone number at that address is (713) 739-1800. Our website address is <http://www.gastar.com>. We make our periodic reports and other information filed with or furnished to the SEC available, free of charge, through our website, as soon as reasonably practicable. Information contained on our website is not incorporated by reference into this prospectus and you should not consider information contained on our website as part of this prospectus.

Risk Factors

An investment in our common stock involves a significant degree of risk. You should carefully consider the risk factors and all of the other information included in this prospectus and the documents we have incorporated by reference into this prospectus, including those in "Item 1A Risk Factors" in our Annual Report on Form 10-K for the fiscal year ended December 31, 2016, before making an investment decision. Please see "Risk Factors" on page 3 of this prospectus for further information.

THE OFFERING

| | |
|--|--|
| Common stock that may be offered by the selling stockholders | 169,933,626 shares |
| Use of proceeds | <p>We will not receive any of the proceeds from the sale of shares of our common stock by the selling stockholders.</p> <p>Please read “Use of Proceeds” and “Selling Stockholders.”</p> |
| Dividend policy | <p>We have never declared or paid any cash dividends on our common stock. We anticipate that we will retain future earnings, if any, to satisfy our operational and other cash needs and do not anticipate paying any cash dividends on our common stock in the foreseeable future. In addition, the agreements governing our Convertible Notes due 2022 (the “Notes”) and our senior secured first lien term loan facility prohibits us from paying cash dividends on our common stock as long as any debt remains outstanding.</p> |
| NYSE MKT Trading symbol | “GST” |
| Risk Factors | <p>You should carefully read and consider the information beginning on page 3 of this prospectus set forth under the heading “Risk Factors” and all other information set forth in this prospectus before deciding to invest in our common stock.</p> |

RISK FACTORS

An investment in our common stock involves a significant degree of risk. You should carefully consider the risk factors and all of the other information included in this prospectus and the documents we have incorporated by reference into this prospectus, including those in “Item 1A. Risk Factors” in our Annual Report on Form 10-K for the fiscal year ended December 31, 2016, before making an investment decision. Any of these risks and uncertainties could have a material adverse effect on our business, financial condition, cash flows and results of operations could be materially adversely affected. If that occurs, the trading price of our common stock could decline materially, and you could lose all or part of your investment.

The risks included in this prospectus and the documents we have incorporated by reference into this prospectus are not the only risks we face. We may experience additional risks and uncertainties not currently known to us, or as a result of developments occurring in the future. Conditions that we currently deem to be immaterial may also materially and adversely affect our business, financial condition, cash flows and results of operations.

Recently enacted changes to the U.S. tax laws could have a negative impact on our business operations, financial condition and earnings.

Recently enacted legislation will result in significant changes to the U.S. tax laws. Although this legislation includes a provision for lower corporate income tax rates, those rate reductions could be offset by other changes intended to broaden the tax base, for example, by limiting the ability to deduct interest expense and net operating losses. We have not yet determined the impact that these changes could have on us, and that impact could be substantial. These changes to the U.S. tax laws could have a negative impact on our operating results, financial condition and business operations. Prospective investors are urged to consult their tax advisors regarding the effect of these changes to the U.S. tax laws on an investment in our shares.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

Various statements contained in or incorporated by reference into this prospectus that express a belief, expectation, or intention, or that are not statements of historical fact, are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 (as amended, the “Securities Act”) and Section 21E of the Securities Exchange Act of 1934 (as amended, the “Exchange Act”). These forward-looking statements include without limitation, all statements regarding future plans, business objectives, strategies, expected future financial position or performance, future covenant compliance, expected future operational position or performance, budgets and projected costs, future competitive position or goals and/or projections of management for future operations. In some cases, you can identify a forward-looking statement by terminology such as “may,” “will,” “could,” “should,” “expect,” “plan,” “project,” “intend,” “anticipate,” “believe,” “estimate,” “predict,” “potential,” “pursue,” “target” or “continue,” the negative of such terms or variations thereon, or other comparable terminology. We have based these forward-looking statements on our current expectations and assumptions about future events. These statements are based on certain assumptions and analyses made by us in light of our experience and our perception of historical trends, current conditions and expected future developments as well as other factors we believe are appropriate under the circumstances. Actual results may differ materially from those implied or expressed by the forward-looking statements. These forward-looking statements speak only as of the date of this prospectus, or if earlier, as of the date they were made. We disclaim any obligation to update or revise these statements unless required by law, and we caution you not to rely on them unduly. While our management considers these expectations and assumptions to be reasonable, they are inherently subject to significant business, economic, competitive, regulatory and other risks, contingencies and uncertainties relating to, among other matters, the risks discussed in “Risk Factors,” as well as those factors summarized below.

Forward-looking statements may include statements about our:

- financial condition;
- cash flow and liquidity;
- timing and results of property divestitures;
- compliance with covenants under our indenture and credit agreements;
- business strategy and budgets;
- capital expenditures;
- drilling of wells, including the scheduling and results of such operations;
- oil, natural gas and NGL reserves;
- timing and amount of future production of oil, condensate, natural gas and NGLs;
- operating costs and other expenses;
- availability of capital; and
- prospect development.

Although we believe such estimates and assumptions to be reasonable, they are inherently uncertain and involve a number of risks and uncertainties that are beyond our control. As such, management’s assumptions about future events may prove to be inaccurate. These cautionary statements qualify all forward-looking statements attributable to us or persons acting on our behalf. Management cautions all readers that the forward-looking statements contained in this prospectus are not guarantees of future performance, and we cannot assure any reader that such statements will be realized or that the events and circumstances they describe will occur. Factors that could cause actual results to differ materially from those anticipated or implied in the forward-looking statements herein include, but are not limited to:

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- the supply and demand for oil, condensate, natural gas and NGLs;
 - continued low or further declining prices for oil, condensate, natural gas and NGLs, including risks of low commodity prices affecting the benefits of our joint development agreement with STACK Exploration LLC;
 - our financial condition, results of operations, revenues, cash flows and expenses;
 - the potential need to sell certain assets, restructure our debt or raise additional capital;
 - the need to take ceiling test impairments due to lower commodity prices;
 - worldwide political and economic conditions and conditions in the energy market;
 - the extent to which we are able to realize the anticipated benefits from acquired assets;
 - our ability to monetize certain assets;
 - our ability to raise capital to fund capital expenditures, service our indebtedness or repay or refinance debt upon maturity;
 - the ability and willingness of our current or potential counterparties, third-party operators or vendors to enter into transactions with us and/or to fulfill their obligations to us;
 - failure of our co-participants to fund any or all of their portion of any capital program;
 - the ability to find, acquire, develop and produce new oil and natural gas properties;
 - uncertainties about the estimated quantities of oil and natural gas reserves and in the projection of future rates of production and timing of development expenditures of proved reserves;
 - strength and financial resources of competitors;
 - availability and cost of material and equipment, such as drilling rigs and transportation pipelines;
 - availability and cost of processing and transportation;
 - changes or advances in technology;
 - the risks associated with exploration, including cost overruns and the drilling of non-economic wells or dry wells, operating hazards inherent to the oil and natural gas business and down hole drilling and completion risks that are generally not recoverable from third parties or insurance;
 - potential mechanical failure or under-performance of significant wells or pipeline mishaps;
 - environmental risks;
 - possible new legislative initiatives and regulatory changes potentially adversely impacting our business and industry, including, but not limited to, national healthcare, hydraulic fracturing, state and federal corporate income taxes, retroactive royalty or production tax regimes, changes in environmental regulations, environmental risks and liability under federal, state and local environmental laws and regulations;
 - effects of the application of applicable laws and regulations, including changes in such regulations or the interpretation thereof;
 - potential losses from pending or possible future claims, litigation or enforcement actions;

-
- potential defects in title to our properties or lease termination due to lack of activity or other disputes with mineral lease and royalty owners, whether regarding calculation and payment of royalties or otherwise;
 - the weather, including the occurrence of any adverse weather conditions and/or natural disasters affecting our business;
 - our ability to find and retain skilled personnel; and
 - any other factors that impact or could impact the exploration of natural gas or oil resources, including, but not limited to, the geology of a resource, the total amount and costs to develop recoverable reserves, legal title, regulatory, natural gas administration, marketing and operational factors relating to the extraction of oil and natural gas.

Should one or more of the risks or uncertainties described in this prospectus occur, or should underlying assumptions prove incorrect, our actual results and plans could differ materially from those expressed in any forward-looking statements.

All forward-looking statements, expressed or implied, included in this prospectus are expressly qualified in their entirety by this cautionary statement. This cautionary statement should also be considered in connection with any subsequent written or oral forward-looking statements that we or persons acting on our behalf may issue.

Except as otherwise required by applicable law, we disclaim any duty to update any forward-looking statements, all of which are expressly qualified by the statements in this section, to reflect events or circumstances after the date of this prospectus.

USE OF PROCEEDS

We will not receive any of the proceeds from the sale of shares of our common stock by the selling stockholders.

SELLING STOCKHOLDERS

This prospectus relates to the offer and sale from time to time by the selling stockholders identified below of up to an aggregate 169,933,626 total shares of our common stock. This prospectus will not cover subsequent sales of common stock purchased from a selling stockholder named in this prospectus.

No offer or sale under this prospectus may be made by a stockholder unless that holder is listed in the table below, in a supplement to this prospectus or in an amendment to the related registration statement that has become effective. We will supplement or amend this prospectus to include additional selling stockholders upon provision of all required information to us and subject to the terms of the relevant agreement between us and the selling stockholders.

The following table sets forth the maximum number of shares of our common stock to be sold by the selling stockholders. The table also sets forth the name of each selling stockholder, the nature of any position, office or other material relationship which the selling stockholder has had, within the past three years, with us or with any of our predecessors or affiliates, and the number of shares of our common stock to be owned by such selling stockholders after completion of the offering.

We prepared the table based on information provided to us by the selling stockholders. We have not sought to verify such information. Other information about the selling stockholders may also change over time.

Except as otherwise indicated, each selling stockholder has sole voting and dispositive power with respect to such shares.

| Names of Selling Stockholders (1)(2) | Shares of Common Stock Beneficially Owned Prior to the Offering (3)(4) | | Shares of Common Stock Being Offered Hereby(3) | Shares of Common Stock Beneficially Owned After Completion of the Offering(3) | |
|--------------------------------------|--|------------|--|---|------------|
| | Number | Percent(5) | Number | Number | Percent(5) |
| AF V Energy I AIV A1 L.P. | 6,470,018 | 2.9% | 6,378,242 | 91,776 | * |
| AF V Energy I AIV A2 L.P. | 6,411,512 | 2.9% | 6,320,562 | 90,950 | * |
| AF V Energy I AIV A3 L.P. | 6,420,317 | 2.9% | 6,329,259 | 91,058 | * |
| AF V Energy I AIV A4 L.P. | 6,453,140 | 2.9% | 6,361,600 | 91,540 | * |
| AF V Energy I AIV A5 L.P. | 6,486,893 | 2.9% | 6,394,883 | 92,010 | * |
| AF V Energy I AIV A6 L.P. | 6,445,918 | 2.9% | 6,354,484 | 91,434 | * |
| AF V Energy I AIV A7 L.P. | 6,303,961 | 2.8% | 6,214,541 | 89,420 | * |
| AF V Energy I AIV A8 L.P. | 6,387,215 | 2.8% | 6,296,617 | 90,598 | * |
| AF V Energy I AIV A9 L.P. | 6,470,018 | 2.9% | 6,378,242 | 91,776 | * |
| AF V Energy I AIV A10 L.P. | 6,470,018 | 2.9% | 6,378,242 | 91,776 | * |
| AF V Energy I AIV A11 L.P. | 6,387,215 | 2.8% | 6,296,617 | 90,598 | * |
| AF V Energy I AIV A12 L.P. | 6,305,091 | 2.8% | 6,215,671 | 89,420 | * |
| AF V Energy I AIV A13 L.P. | 7,598,416 | 3.4% | 7,490,640 | 107,776 | * |
| AF V Energy I AIV B1 L.P. | 45,623,125 | 18.6% | 44,975,995 | 647,130 | * |
| Total | 130,232,857 | | 128,385,595 | 1,847,262 | |

* Less than 1%.

- (1) According to, and based upon, the Schedule 13D/A filed by AF V Energy I AIV B1, L.P., ACOF Investment Management LLC, Ares Management LLC (“Ares”), Ares Management Holdings L.P., Ares Holdco LLC, Ares Holdings Inc., Ares Management, L.P. (“Ares Management”), Ares Management GP LLC and Ares Partners Holdco LLC (collectively, the “Ares Reporting Persons”) with the SEC on May 25, 2017. The Ares Reporting Persons may be deemed to share voting and dispositive power with respect to the shares, which are held by the selling stockholders. Each of the selling stockholders has informed us that (i) it purchased the securities in the ordinary course of business, and (ii) at the time the securities were purchased, it had no agreements or understandings, directly or indirectly, with any person to distribute the securities. The address of each Ares Reporting Person and each selling stockholder is 2000 Avenue of the Stars, 12th Floor, Los Angeles, California 90067.
- (2) The selling stockholders have nominated Nathan W. Walton and Ronald D. Scott to serve as directors on our board of directors (the “Board”). The selling stockholders also own an aggregate of 2,000 Special Voting Shares (as defined below)

that entitle the holders of a majority of such shares to elect up to two directors (including any nominees designated under the Purchase Agreements (as defined below)) to the Board for so long as the holders of such shares meet certain common stock ownership thresholds.

- (3) Included as shares of common stock beneficially owned prior to the offering and shares of common stock being offered hereby are an aggregate of (i) 54,864,826 shares directly owned by selling stockholders and (ii) 73,520,769 shares of common stock issuable upon conversion at the option of selling stockholders of the Notes directly owned by selling stockholders based on an initial conversion rate of 452.4355 shares of common stock per \$1,000 principal amount of the Notes. Also covered by this prospectus is the offer and sale by the selling stockholders of an aggregate maximum of (i) 22,056,210 additional shares that may be issued to selling stockholders in respect of the original principal amount of the Notes as “make whole” shares under certain circumstances described in the Indenture and (ii) 19,491,821 additional shares that may be issued to selling stockholders in respect of the conversion of additional principal of the Notes issued at the option of the Company as “pay in kind” or “PIK” interest on the Notes upon the occurrence of certain registration defaults under the indenture (including the maximum issuance of additional related “make whole” shares in respect of such PIK principal), which additional shares are issuable to each of the selling stockholders in respect of their Notes ownership, and offered and sold hereby, in the maximum amounts as follows:

| <u>Names of Selling Stockholders</u> | <u>Additional “Make-Whole” Shares</u> | <u>Additional “PIK Interest” Shares</u> |
|--------------------------------------|---|---|
| AF V Energy I AIV A1 L.P. | 1,095,786 | 968,384 |
| AF V Energy I AIV A2 L.P. | 1,085,952 | 959,693 |
| AF V Energy I AIV A3 L.P. | 1,087,217 | 960,810 |
| AF V Energy I AIV A4 L.P. | 1,092,977 | 965,900 |
| AF V Energy I AIV A5 L.P. | 1,098,597 | 970,867 |
| AF V Energy I AIV A6 L.P. | 1,091,712 | 964,783 |
| AF V Energy I AIV A7 L.P. | 1,067,689 | 943,553 |
| AF V Energy I AIV A8 L.P. | 1,081,738 | 955,968 |
| AF V Energy I AIV A9 L.P. | 1,095,786 | 968,384 |
| AF V Energy I AIV A10 L.P. | 1,095,786 | 968,383 |
| AF V Energy I AIV A11 L.P. | 1,081,737 | 955,968 |
| AF V Energy I AIV A12 L.P. | 1,067,689 | 943,553 |
| AF V Energy I AIV A13 L.P. | 1,286,846 | 1,137,230 |
| AF V Energy I AIV B1 L.P. | 7,726,698 | 6,828,345 |
| Total | <u><u>22,056,210</u></u> | <u><u>19,491,821</u></u> |

- (4) Beneficial ownership is determined in accordance with Rule 13d-3 under the Exchange Act.
- (5) Based on 218,886,467 shares of our common stock issued and outstanding as of December 15, 2017 and assuming full conversion of the remaining \$162.5 million outstanding principal amount of Notes owned by selling stockholders (excluding the issuance of any additional “make whole” shares or conversion of any additional Notes issued as PIK interest). Because the selling stockholders are not obligated to sell all or any portion of the shares of our common stock shown as offered by them, we cannot estimate the actual number or percentage of shares of our common stock that will be held by any selling stockholder upon completion of this offering. However, for purposes of this table, we have assumed that, after completion of the offering, none of the shares covered by this prospectus will be held by the applicable selling stockholder.

Selling stockholders who are registered broker-dealers may be deemed to be underwriters within the meaning of the Securities Act. In addition, selling stockholders who are affiliates of registered broker-dealers may be deemed to be underwriters within the meaning of the Securities Act if such selling stockholder (a) did not acquire its shares of common stock in the ordinary course of business or (b) had an agreement or understanding, directly or indirectly, with any person to distribute the common stock. To our knowledge, no selling stockholder who is a registered broker-dealer or an affiliate of a registered broker-dealer received any securities as underwriting compensation.

Any prospectus supplement reflecting a sale of common stock hereunder will set forth, with respect to the selling stockholders:

- the name of the selling stockholders;
- the nature of the position, office or other material relationship that the selling stockholders will have had within the prior three years with us or any of our affiliates;

- the number of shares of common stock owned by the selling stockholders prior to the offering;
- the amount or number of shares of common stock to be offered for the selling stockholders' account; and
- the amount and (if 1.0% or more) the percentage of common stock to be owned by the selling stockholders after the completion of this offering.

Description of Transactions with the Selling Stockholders

Purchase Agreements

On March 3, 2017, pursuant to a Securities Purchase Agreement dated February 16, 2017 (as amended, the "February Purchase Agreement") among the Company and the selling stockholders, as purchasers, the Company issued and sold to the selling stockholders (i) \$125.0 million aggregate principal amount of its Notes at par for cash and (ii) 29,408,305 shares of common stock for \$50.0 million cash. The Notes are governed by an Indenture dated March 3, 2017 (the "Original Indenture") by and among the Company, the subsidiary guarantor named therein, and Wilmington Trust, National Association, as trustee (the "Trustee") and collateral trustee. On May 2, 2017, Requisite Stockholder Approval (as defined in the Original Indenture) was obtained and the Notes became convertible into common stock or, in certain circumstances, cash in lieu of common stock or a combination of cash and shares of common stock as described below. In addition, on March 3, 2017, a fund managed indirectly by Ares also loaned the Company \$250.0 million pursuant to a first-lien secured term loan (the "Term Loan"). The proceeds from the sale of the Notes, the common stock and the Term Loan were used to fully repay the \$69.2 million outstanding on the Company's revolving credit facility, which was scheduled to mature on November 14, 2017, and to satisfy and discharge the Company's \$325.0 million 8.625% senior secured notes due May 2018, which were redeemed in accordance with the governing indenture at a price of 102.156% of the principal amount, and to pay the expenses related to the Ares transactions.

The issuance of the shares of common stock to the selling stockholders on March 3, 2017 was priced based on a 30-trading day volume weighted average trading price (the "VWAP") of \$1.7002 per share, determined as of February 15, 2017, the date immediately prior to the signing date of the February Purchase Agreement. Under the February Purchase Agreement, for so long as the selling stockholders, collectively, beneficially own 10% or more of the common stock (including for this purpose all shares of common stock issuable upon conversion of the Notes), the selling stockholders will have certain preemptive rights to purchase their pro rata share of any additional equity securities offered by the Company in the future on similar terms as are offered to others.

On March 22, 2017, the Company completed the acquisition of additional working and net revenue interests in approximately 66 gross (9.5 net) producing wells and 5,670 net acres of additional STACK oil and gas leasehold interests in Kingfisher County, Oklahoma from multiple sellers for an aggregate cash purchase price of approximately \$51.4 million, subject to adjustment for a transaction effective date of March 1, 2017 (the "Acquisition").

In order to provide funding for the Acquisition and a portion of the Company's 2017 capital budget, the Company entered into an additional Securities Purchase Agreement dated March 20, 2017 (the "March Purchase Agreement" and together with the February Purchase Agreement, the "Purchase Agreements") with the selling stockholders as purchasers, pursuant to which, on March 21, 2017, the Company issued and sold at par for cash to the selling stockholders an additional \$75.0 million aggregate principal amount of the Notes pursuant to a First Supplemental Indenture dated March 21, 2017 to the Original Indenture among the Company, the guarantor named therein and Wilmington Trust, National Association, as indenture trustee and collateral trustee (the "First Supplemental Indenture"). On May 2, 2017, Requisite Stockholder Approval was obtained. As a result (i) the Notes became convertible at any time at the option of the holder into shares of common stock, or cash or a combination of cash and shares of common stock in accordance with the terms of the Original Indenture, as amended and supplemented by the First Supplemental Indenture (the "Indenture") and (ii) under the March Purchase Agreement, \$37.5 million principal of the Notes were repurchased by the Company pursuant to a mandatory repurchase obligation of the Company (the "Mandatory Repurchase") in exchange for the issuance of (a) 25,456,521 newly issued shares of common stock (the "Repurchase Shares") and (b) 2,000 shares of the Company's Special Voting Preferred Stock, par value \$0.01 per share, as described in more detail below. Under the Mandatory Repurchase, one Repurchase Share was issued for \$1.4731 of outstanding principal of the repurchased Notes, which was based on the 10-day VWAP of the common stock for the period ended March 17, 2017.

Indenture

The principal terms of the Notes are governed by the Indenture. The Notes bear interest initially at 6.0% per annum and will mature on March 1, 2022, unless earlier repurchased, redeemed or converted in accordance with the terms of the Indenture. Interest is payable on the Notes on each March 1, June 1, September 1 and December 1 of each year, commencing on June 1, 2017.

Upon receipt of Requisite Stockholder Approval, the Notes became convertible at any time at the option of the holder into shares of common stock based on an initial conversion rate of 452.4355 shares of common stock per \$1,000 principal amount of the Notes (which is equivalent to an initial conversion price of \$2.2103 per share), subject to certain adjustments and the issuance of additional “make-whole” shares under circumstances specified in the Indenture. Subject to certain limitations, the Company will have the right to settle its conversion obligations on the Notes in cash, shares of common stock or a combination of cash and shares of common stock. The Company has the right to redeem the Notes (i) on or after March 3, 2019, if the last reported sale price per share of common stock exceeds 150% of the conversion price for periods specified in the Indenture and (ii) on or after March 1, 2021 without regard to such condition, in each case at cash redemption price equal to the principal amount of the Notes to be redeemed plus accrued interest, if any.

The Notes are secured by a second-priority lien, on substantially all of the assets of the Company. The Indenture restricts the ability of the Company and certain of its subsidiaries to, among other things: (i) pay dividends or make other distributions in respect of the Company’s capital stock or make other restricted payments; (ii) incur additional indebtedness and issue preferred stock; (iii) make certain dispositions and transfers of assets; (iv) engage in transactions with affiliates; (v) create liens; (vi) engage in certain business activities that are not related to oil and gas; and (vii) impair any security interest. These covenants are subject to a number of exceptions and qualifications.

The Indenture provides that a number of events will constitute an Event of Default (as defined in the Indenture), including, among other things: (i) a failure to pay the Notes when due at maturity, upon redemption or repurchase; (ii) failure to pay interest for 30 days; (iii) the Company’s failure to deliver certain notices; (iv) a default in the Company’s obligation to convert the Notes; (v) the Company’s failure to comply with certain covenants relating to merger, consolidation or sale of assets; (vi) the Company’s failure to comply, for 60 days following notice, with any of the other covenants or agreements in the Indenture; (vii) a default, which is not cured within 30 days, by the Company or any Restricted Subsidiaries (as defined in the Indenture) with respect to any mortgages or any indebtedness for money borrowed of at least \$15 million; (viii) one or more final judgments against the Company or any of its Restricted Subsidiaries for the payment of at least \$15 million; (ix) the Company’s failure to make any payments required under that certain development agreement; (x) causing any Guarantee (as defined in the Indenture) to cease to be in full force and effect; (xi) the cessation to be in full force and effect of any of the collateral agreements related to the transactions; and (xii) certain events of bankruptcy or insolvency. In the case of an Event of Default arising from certain events of bankruptcy or insolvency with respect to the Company, all outstanding Notes will become due and payable immediately without further action or notice. If any other Event of Default occurs and is continuing, the Trustee or the holders of at least 25% in aggregate principal amount of the then outstanding Notes may declare all the Notes to be due and payable immediately. If there is no Requisite Stockholder Approval, then upon any acceleration of the Notes following an Event of Default, holders will be entitled to receive a “make-whole” premium in addition to principal and accrued interest.

If at least a majority of the Notes issued cease to be held by affiliates of Ares, the liens securing the Notes will be released and substantially all of the restrictive covenants in the Indenture will terminate.

The description of the Original Indenture is qualified in its entirety by reference to the full text of the Original Indenture, a copy of which was previously filed as Exhibit 4.1 to the Company’s Current Report on Form 8-K filed with the SEC on March 7, 2017. The description of the First Supplemental Indenture is qualified in its entirety by reference to the full text of the First Supplemental Indenture, a copy of which was previously filed as Exhibit 4.2 to the Company’s Current Report on Form 8-K filed with the SEC on March 22, 2017.

Special Voting Shares

On March 22, 2017, the Company filed a Certificate of Designation of Special Voting Preferred Stock of the Company (the “Certificate of Designation”) with the Secretary of State of the State of Delaware with respect to the creation of a new series of 2,000 shares of the Company’s authorized but unissued preferred stock, par value \$0.01 (the “Special Voting Shares”).

The Special Voting Shares were issued in connection with the Mandatory Repurchase in accordance with the March Purchase Agreement. The Special Voting Shares may be redeemed in whole any time after the Initial Holders (as defined in the Certificate of Designation) Beneficially Own (as defined in the Certificate of Designation) less than 5% of the common stock subject to the terms of the Certificate of Designation. There is no mandatory redemption of the Special Voting Shares. Holders of the Special Voting Shares are not entitled to receive any dividends declared and paid by the Company.

The Company’s Special Voting Shares do not entitle the holders of such shares to any rights, other than the right to elect two (2) members of the our Board for so long as the Initial Holders, any Subsequent Holders (as defined in the Certificate of Designation) and their respective affiliates Beneficially Own at least 15% of the outstanding common stock in the aggregate and the right to elect one (1) member of the Board for so long as the Initial Holders, Subsequent Holders and their affiliates Beneficially Own at least 5% but less than 15% of the outstanding common stock in the aggregate. The Certificate of Designation contains certain restrictions on transfer of the Special Voting Shares.

Other Matters Relating to the Purchase Agreement

Board Representation . Pursuant to the Purchase Agreements, and so long as the selling stockholders beneficially own at least 15% of the common stock (excluding unissued shares that the selling stockholders only have the right to acquire), the selling stockholders will be entitled to nominate two individuals to serve on an expanded eight member Board. If the selling stockholders beneficially own 5% or more, but less than 15% of the common stock (excluding unissued shares that the selling stockholders only have the right to acquire), the selling stockholders will be entitled to nominate one individual to serve on our Board. The selling stockholders have designated Nathan W. Walton and Ronald D. Scott as selling stockholders’ nominees for directors to serve on the Board and the Board appointed Messrs. Walton and Scott to the Board on May 2, 2017.

Registration Rights Agreement . In connection with the transactions contemplated by the Purchase Agreements, the Company entered into a Registration Rights Agreement (as amended, the “Registration Rights Agreement”) with the selling stockholders, pursuant to which the Company has agreed that the future resale of the common stock sold pursuant to the Purchase Agreements and the shares of common stock issued upon conversion of the Notes will be subject to certain registration rights.

The Registration Rights Agreement includes a plan of distribution permitting the selling stockholders to sell the covered common stock by various means, including in open market sales from time to time, pursuant to underwritten offerings or in negotiated sales. The failure to maintain the effectiveness of the registration statement, with certain exceptions, will result in additional interest accruing on the Notes for so long as they are outstanding. In addition, under the Registration Rights Agreement, the Company will be required to cooperate in a maximum of four underwritten offerings at the expense of the Company (other than underwriting discounts).

Relationships with the Selling Stockholders

As of December 15, 2017, the selling stockholders, which are funds managed indirectly by Ares, owned approximately 25.9% of our issued and outstanding common stock and beneficially owned approximately 44.5% of our outstanding common stock based on our issued and outstanding shares at December 15, 2017 assuming full conversion of the remaining \$162.5 million outstanding principal amount of Notes owned by selling stockholders (excluding the issuance of any additional “make whole” shares or conversion of any additional Notes issued as PIK interest). The Notes became convertible upon receipt of Requisite Stockholder Approval on May 2, 2017. Under the terms of the Purchase Agreements and as holders of the Special Voting Shares, the selling stockholders are currently entitled to nominate two directors to our Board. The selling stockholders nominated Nathan W. Walton and Ronald D. Scott to serve as directors on the Board and on May 2, 2017, Messrs. Walton and Scott were appointed to the Board. Mr. Walton is a Partner in the Ares Private Equity Group and a member of the management committee of Ares Management.

PRICE RANGE OF COMMON STOCK

Our common stock is listed on the NYSE MKT under the symbol “GST.” The following table shows, for the periods indicated, the high and low reported sale prices for our common stock, as reported on the NYSE MKT.

| | Sales Price | |
|--|-------------|--------|
| | High | Low |
| 2015: | | |
| First quarter | \$3.27 | \$1.89 |
| Second quarter | \$3.79 | \$2.58 |
| Third quarter | \$3.13 | \$1.00 |
| Fourth quarter | \$1.93 | \$1.00 |
| 2016: | | |
| First quarter | \$1.38 | \$0.57 |
| Second quarter | \$2.21 | \$0.83 |
| Third quarter | \$1.13 | \$0.80 |
| Fourth quarter | \$1.80 | \$0.82 |
| 2017: | | |
| First quarter | \$2.19 | \$1.23 |
| Second quarter | \$1.66 | \$0.83 |
| Third quarter | \$0.97 | 0.38 |
| Fourth quarter (through December 21, 2017) | \$1.13 | \$0.67 |

On December 21, 2017, the last sales price of our common stock as reported on the NYSE MKT was \$1.00 per share.

The number of shareholders of record of our common stock was approximately 243 as of December 15, 2017.

DIVIDEND POLICY

We have not paid, and do not intend to pay in the foreseeable future, cash dividends on our common stock. Covenants contained in the senior secured first lien term loan facility and the indenture governing our Notes restrict the payment of dividends on our common stock. In August 2017, we ceased paying dividends on our outstanding Series A preferred stock and Series B preferred stock in order to preserve liquidity in the current commodity pricing environment. Under the terms of our outstanding preferred stock, we cannot pay dividends on our common stock until we pay all of our accumulated and unpaid dividends on our preferred stock. We currently intend to retain all future earnings to fund the development and growth of our business. Any payment of future dividends will be at the discretion of our board of directors and will depend on, among other things, our earnings, financial condition, capital requirements, level of indebtedness, statutory and contractual restrictions applying to the payment of dividends and other considerations that our board of directors deems relevant.

In the event that we fail to pay monthly cash dividends for any four calendar quarters on either our Series A preferred stock or Series B preferred stock, whether consecutive or non-consecutive, and such dividends remain unpaid then (i) we may be required to issue a dividend of common stock with respect to such series of preferred stock to pay accrued and unpaid dividends, which such issuance will dilute the interests of our existing common stockholders, provided we have sufficient surplus to pay such a dividend under state law; (ii) the holders of such series of preferred stock, voting together as a single class with the holders of the other series of preferred stock, if such dividends have not been paid with respect to both series of preferred stock, will have the right to elect up to two additional directors to our board directors; and (iii) the fixed dividend rate of such series of preferred stock increases by 2.00% per annum.

DESCRIPTION OF CAPITAL STOCK

General

The following descriptions are summaries of material terms of our common stock, preferred stock, amended and restated certificate of incorporation (“certificate of incorporation”) and amended and restated bylaws (“bylaws”). These summaries are qualified by reference to our certificate of incorporation, bylaws and the designations of our preferred stock, which are filed as exhibits to the registration statement of which this prospectus forms a part, and by the provisions of applicable law.

As of December 15, 2017, our authorized capital stock consisted of (a) 40,000,000 shares of preferred stock, \$0.01 par value per share, 6,187,000 of which were issued and outstanding, and (b) 800,000,000 shares of common stock, \$0.001 par value per share, 218,886,467 of which were issued and outstanding (which includes 9,792,902 shares of unvested restricted stock). In addition, as of December 15, 2017, the number of shares of common stock potentially issuable pursuant to awards outstanding under our equity incentive plans is 2,391,306, of which (a) 164,400 shares were subject to options to purchase our common stock at a weighted average exercise price of \$3.01 per option and (b) 2,226,906 shares were subject to outstanding performance-based stock unit awards (assuming settlement at 100% of the “target” level of performance).

Common Stock

Shares of our common stock have the following rights, preferences and privileges:

- *Voting Rights* . Holders of our common stock are entitled to receive notice of any meeting of stockholders and to one vote for each share held of record on all matters at all meetings of stockholders, except at a meeting where holders of a particular class or series of shares are entitled to vote separately. Our common stockholders have no cumulative voting rights and all members of our Board are to be elected annually by plurality of the votes of the shares present in person or represented by proxy at the meeting and entitled to vote on the election of directors. Under our bylaws, subject to the rights of the holders of any series of preferred stock to elect directors under specified circumstances set forth in any Preferred Stock Designation, each stockholder having the right to vote is entitled at every meeting of stockholders to vote one vote for every share standing in his name on the record date fixed by the Board pursuant to the bylaws. Except as otherwise provided by law, the certificate of incorporation, any Preferred Stock Designation, the bylaws or any resolution adopted by a majority of the whole Board, all matters submitted to the stockholders at any meeting at which a quorum is present (other than the election of directors) shall be decided by the affirmative vote of the majority of shares present in person or represented by proxy at the meeting and entitled to vote on the subject matter.
- *Dividends* . Holders of common stock are entitled to receive dividends if, as and when declared by the Board out of funds legally available therefor, subject to the limitations contained in the Delaware General Corporation Law (the “DGCL”) and any dividend preferences of any outstanding shares of preferred stock.
- *Liquidation* . If we liquidate, dissolve or wind up, voluntarily or involuntarily, holders of our common stock are entitled to share ratably in all net assets available for distribution to our stockholders, after creditors of the corporation have been paid in full and after the payment in full of any preferential amounts to which holders of our preferred stock may be entitled.
- *Other Rights and Preferences* . Other than as disclosed in this prospectus, no share of common stock affords any preemptive rights or is convertible, redeemable, assessable or entitled to the benefits of any sinking or repurchase fund.
- *Listing* . Our common stock is traded on the NYSE MKT LLC under the symbol “GST.”
- *Transfer Agent and Registrar* . The transfer agent and registrar for our common stock is American Stock Transfer and Trust Company, LLC.

Shares of our common stock are validly issued, fully paid and non-assessable.

Preferred Stock

As of the date of this prospectus, we had 40,000,000 shares of authorized preferred stock, 19,998,000 of which are undesignated.

At the direction of our Board, we may issue shares of preferred stock from time to time. Our Board may, without any action by holders of our common stock:

- adopt resolutions to issue preferred stock in one or more classes or series;
- fix the number of shares constituting any class or series of preferred stock; and
- establish the rights of the holders of any class or series of preferred stock.

The rights of any class or series of preferred stock may include, among others:

- general or special voting rights;
- preferential liquidation or preemptive rights;
- preferential cumulative or noncumulative dividend rights;
- redemption or put rights; and
- conversion or exchange rights.

We may issue shares of, or rights to purchase, preferred stock, the terms of which might:

- adversely affect voting or other rights evidenced by, or amounts otherwise payable with respect to, the common stock;
- discourage an unsolicited proposal to acquire us; or
- facilitate a particular business combination involving us.

Any of these actions could discourage a transaction that some or a majority of our stockholders might believe to be in their best interests or in which our stockholders might receive a premium for their stock over its then market price.

8.625% Series A Cumulative Preferred Stock

As of the date of this prospectus, we had designated 10,000,000 shares to constitute our 8.625% Series A Preferred Stock (the "Series A Preferred Stock") and have 4,045,000 shares issued and outstanding. The terms of the Series A Preferred Stock are contained in a Certificate of Designation (the "Series A Certificate"), which is incorporated by reference to an exhibit to the registration statement of which this prospectus forms a part. The following description is a summary of the material provisions of the Series A Preferred Stock as set forth in the Series A Certificate:

- *Ranking*. The Series A Preferred Stock will rank: (i) senior to the common stock and any other equity securities that we may issue in the future, the terms of which specifically provide that such equity securities rank junior to such Series A Preferred Stock, in each case with respect to payment of dividends and amounts upon liquidation, dissolution or winding up, referred to as "Junior Shares," (ii) equal to the Series B Preferred Stock (as defined below) and equal to any shares of equity securities that we may issue in the future, the terms of which specifically provide that such equity securities rank on par with such Series A Preferred Stock, in each case with respect to payment of dividends and amounts upon liquidation, dissolution or winding up, referred to as "Parity Shares," (iii) junior to all other equity securities issued by us, the terms of which specifically provide that such equity securities rank senior to such Series A Preferred Stock, in each case with respect to payment of dividends and amounts upon liquidation, dissolution or

winding up (any such issuance would require the affirmative vote of the holders of at least two-thirds of the outstanding shares of Series A Preferred Stock), referred to as “Senior Shares,” and (iv) junior to all of our existing and future indebtedness.

- *Voting Rights* . Holders of the Series A Preferred Stock will generally only be entitled to vote on certain acquisitions and share exchange transactions and changes that would be materially adverse to the rights of holders of Series A Preferred Stock. However, if cash dividends on any outstanding Series A Preferred Stock have not been paid in full for any monthly dividend period for any four consecutive or non-consecutive quarterly periods, or if we fail to maintain the listing of the Series A Preferred Stock on a National Exchange for at least 180 consecutive days after the Series A Preferred Stock becomes eligible for listing on the New York Stock Exchange, the NYSE Amex, a NASDAQ Stock Market or any comparable national securities exchange or national securities market (a “National Exchange”), the holders of the Series A Preferred Stock, voting separately as a class with holders of all other series of Parity Shares upon which like voting rights have been conferred and are exercisable, will have the right to elect two directors to serve on our Board in addition to those directors then serving on such board until such time as the Series A Preferred Stock becomes listed on a National Exchange or the dividend arrearage is eliminated. Additionally, the affirmative consent of holders of at least 66 2/3% of the outstanding Series A Preferred Stock will be required for the issuance of any Senior Shares or for amendments to our certificate of incorporation by merger or otherwise that would affect adversely the rights of holders of the Series A Preferred Stock.
- *Dividends* . Holders of our Series A Preferred Stock are entitled to receive cumulative cash dividends when and as declared by our Board out of funds legally available for the payment therefor, at a rate of 8.625% per annum of the \$25.00 liquidation preference per share (equivalent to \$2.15625 per annum per share). Under certain conditions relating to non-payment of dividends on the Series A Preferred Stock or if the Series A Preferred Stock are no longer listed on a National Exchange, the dividend rate on the Series A Preferred Stock may increase to 10.625% per annum. Dividends are generally payable monthly in arrears on the last day of each calendar month. In August 2017, we ceased paying monthly cash dividends on our outstanding Series A Preferred Stock and Series B Preferred Stock in order to preserve liquidity in the current commodity pricing environment. See “Dividend Policy.”
- *Conversion Rights* . Our Series A Preferred Stock is not convertible into, or exchangeable for, any of our property or securities.
- *Redemption Rights* . We may redeem the Series A Preferred Stock for cash at our option, from time to time, in whole or in part, at a redemption price of \$25.00 per share, plus accrued and unpaid dividends (whether or not earned or declared) to the redemption date.
- *Liquidation* . If we liquidate, dissolve or wind up our operations, the holders of the Series A Preferred Stock will have the right to receive \$25.00 per share, plus all accumulated and unpaid dividends (whether or not earned or declared) to and including the date of payment, before any payments are made to the holders of our common stock and any other Junior Shares. The rights of the holders of the Series A Preferred Stock to receive the liquidation preference will be subject to the proportionate rights of holders of each other future series or class of Parity Shares and subordinate to the rights of Senior Shares.
- *Other Rights and Preferences* . No share of our Series A Preferred Stock affords any preemptive rights or is entitled to the benefits of any retirement or sinking fund.
- *Listing* : Our Series A Preferred Stock is traded on the NYSE MKT LLC under the symbol “GST.PR.A.”
- *Transfer Agent, Registrar and Dividend Disbursing Agent* . The transfer agent, registrar and dividend disbursement agent for our Series A Preferred Stock is American Stock Transfer and Trust Company, LLC.

Our Series A Preferred Stock is validly issued, fully paid and non-assessable.

10.75% Series B Cumulative Preferred Stock

As of the date of this prospectus, we had designated 10,000,000 shares to constitute our 10.75% Series B Preferred Stock (the “Series B Preferred Stock”) and have 2,140,000 shares issued and outstanding. The terms of the Series B Preferred Stock are contained in a Certificate of Designation (the “Series B Certificate”), which is incorporated by reference to an exhibit to the registration statement of which this prospectus forms a part. The following description is a summary of the material provisions of the Series B Preferred Stock as set forth in the Series B Certificate:

- *Ranking* . The Series B Preferred Stock will rank: (i) senior to the common stock and any other equity securities that we may issue in the future, the terms of which specifically provide that such equity securities rank junior to such Series B Preferred Stock, in each case with respect to payment of dividends and amounts upon liquidation, dissolution or winding up, referred to as “Junior Shares,” (ii) equal to the Series A Preferred Stock and any shares of equity securities that we may issue in the future, the terms of which specifically provide that such equity securities rank on par with such Series B Preferred Stock, in each case with respect to payment of dividends and amounts upon liquidation, dissolution or winding up, referred to as “Parity Shares,” (iii) junior to all other equity securities issued by us, the terms of which specifically provide that such equity securities rank senior to such Series B Preferred Stock, in each case with respect to payment of dividends and amounts upon liquidation, dissolution or winding up (any such issuance would require the affirmative vote of the holders of at least two-thirds of the outstanding shares of Series B Preferred Stock and all other series of Voting Preferred Shares (as defined in the Series B Certificate)), referred to as “Senior Shares,” and (iv) junior to all of our existing and future indebtedness.
- *Voting Rights* . Holders of the Series B Preferred Stock will generally only be entitled to vote on certain acquisitions and share exchange transactions and changes that would be materially adverse to the rights of holders of Series B Preferred Stock. However, if cash dividends on any outstanding Series B Preferred Stock have not been paid in full for any monthly dividend period for any four consecutive or non-consecutive quarterly periods, or if we fail to maintain the listing of the Series B Preferred Stock on a National Exchange for at least 180 consecutive days after the Series B Preferred Stock becomes eligible for listing on a National Exchange, the holders of the Series B Preferred Stock, voting separately as a class with holders of all other series of Parity Shares upon which like voting rights have been conferred and are exercisable, will have the right to elect two directors to serve on our Board in addition to those directors then serving on such board until such time as the Series B Preferred Stock becomes listed on a National Exchange or the dividend arrearage is eliminated. Additionally, the affirmative consent of holders of at least 66 2/3% of the outstanding Series B Preferred Stock will be required for the issuance of any Senior Shares or for amendments to our certificate of incorporation by merger or otherwise that would affect adversely the rights of holders of the Series B Preferred Stock.
- *Dividends* . Holders of our Series B Preferred Stock are entitled to receive cumulative cash dividends when and as declared by our Board out of funds legally available for the payment therefor, at a rate of 10.75% per annum of the \$25.00 liquidation preference per share (equivalent to \$2.6875 per annum per share). Under certain conditions relating to non-payment of dividends on the Series B Preferred Stock or if the Series B Preferred Stock is no longer listed on a National Exchange, the dividend rate on the Series B Preferred Stock may increase to 12.75% per annum. Dividends are generally payable monthly in arrears on the last day of each calendar month. In August 2017, we ceased paying monthly cash dividends on our outstanding Series A Preferred Stock and Series B Preferred Stock in order to preserve liquidity in the current commodity pricing environment. See “Dividend Policy.”
- *Conversion Rights* . Except under certain conditions, upon the occurrence of a Change of Ownership or Control (as defined in the Series B Certificate), each holder of Series B Preferred Stock will have the right to convert some or all of such stock held by such holder into a number of shares of our common stock.
- *Redemption Rights* . We may not redeem the Series B Preferred Stock prior to November 15, 2018 except pursuant to the special redemption upon a Change of Ownership or Control. On and after November 15, 2018, we may redeem the Series B Preferred Stock for cash at our option, from time to time, in whole or in part, at a redemption price of \$25.00 per share, plus accrued and unpaid dividends (whether or not earned or declared) to the redemption date.

- *Liquidation* . If we liquidate, dissolve or wind up our operation, the holders of the Series B Preferred Stock will have the right to receive \$25.00 per share, plus all accumulated and unpaid dividends (whether or not earned or declared) to and including the date of payment, before any payments are made to the holders of our common stock and any other Junior Shares. The rights of the holders of the Series B Preferred Stock to receive the liquidation preference will be subject to the proportionate rights of holders of each other future series or class of Parity Shares and subordinate to the rights of Senior Shares.
- *Other Rights and Preferences* . No share of our Series B Preferred Stock affords any preemptive rights or is entitled to the benefits of any retirement or sinking fund.
- *Listing* : Our Series B Preferred Stock is traded on the NYSE MKT LLC under the symbol “GST.PR.B.”
- *Transfer Agent, Registrar and Dividend Disbursing Agent* . The transfer agent, registrar and dividend disbursement agent for our Series B Preferred Stock is American Stock Transfer and Trust Company, LLC.

Our Series B Preferred Stock is validly issued, fully paid and non-assessable.

Special Voting Preferred Stock

As of the date of this prospectus, we had designated 2,000 shares to constitute our Special Voting Preferred Stock and have 2,000 shares issued and outstanding. The terms of the Special Voting Preferred Stock are contained in a Certificate of Designation, which is incorporated by reference to an exhibit to the registration statement of which this prospectus forms a part. The following description is a summary of the material provisions of the Special Voting Preferred Stock as set forth in the related Certificate of Designation:

- *Ranking* . The Special Voting Preferred Stock rank, with respect to the distribution of assets, junior to all series of any other class of the corporation’s preferred stock (including, for the avoidance of doubt, junior to any outstanding shares of the Corporation’s Series A Preferred Stock and Series B Preferred Stock).
- *Voting Rights* . The Special Voting Preferred Stock have no voting rights other than that the Holders of the Special Voting Preferred Stock have the right to elect two (2) members of the Board for so long as the Initial Holders, any Subsequent Holders (as defined in the Certificate of Designation) and their respective affiliates Beneficially Own (as defined in the Certificate of Designation) at least 15% of the outstanding Common Stock in the aggregate and the right to elect one (1) member of the Board for so long as the Initial Holders, Subsequent Holders and their affiliates Beneficially Own at least 5% but less than 15% of the outstanding common stock in the aggregate. The Certificate of Designation contains certain restrictions on transfer of the Special Voting Preferred Stock.
- *Dividends* . Holders of the Special Voting Preferred Stock are not entitled to receive any dividends declared and paid by the Company.
- *Redemption Rights* . The shares of Special Voting Preferred Stock may be redeemed by the Company, in whole and not in part, at a redemption price in accordance with the Certificate of Designation.
- *Liquidation* . In the event of any liquidation, dissolution or winding up of the Company the holders of Special Voting Preferred Stock will be entitled to receive \$0.01 for each such share.
- *Other Rights and Preferences* . No share of our Special Voting Preferred Stock affords any preemptive rights or is entitled to the benefits of any retirement or sinking fund.
- *Listing* : Our Special Voting Preferred Stock is not listed on a national securities exchange.
- *Transfer Agent and Registrar* . The transfer agent and registrar for our Special Voting Preferred Stock is American Stock Transfer and Trust Company, LLC.

Our Special Voting Preferred Stock is validly issued, fully paid and non-assessable.

Anti-Takeover Provisions of our Certificate of Incorporation and Bylaws

The provisions of our certificate of incorporation and bylaws may have an anti-takeover effect and may delay, defer or prevent a tender offer or takeover attempt that a stockholder might consider in his or her best interest, including those attempts that might result in a premium over the market price for the common stock. Among other things, our certificate of incorporation and bylaws:

- provide that any action taken by our stockholders must be taken (a) by a vote of stockholders at a meeting of stockholders duly noticed and called in accordance with the DGCL or (b) without a meeting, without prior notice, and without a vote if a consent or consents, in writing or by electronic transmission, setting forth the action so taken shall be signed by all stockholders entitled to vote on the taking of such action;
- provide that stockholders seeking to present proposals before a meeting of stockholders or to nominate candidates for election as directors at a meeting of stockholders must provide notice in a timely manner, and also specify requirements as to the form and content of such notice;
- provide that the Board or any individual director may be removed (i) with cause only by the affirmative vote of the holders of not less than a majority of the shares of our capital stock entitled to vote generally in the election of directors voting together as a single class or (ii) without cause only by the affirmative vote of the holders of not less than two-thirds (66.66%) of the shares of our capital stock entitled to vote generally in the election of directors voting together as a single class;
- authorize the Board to determine the number of directors and to fill vacancies on the Board;
- provide that only the Board or chief executive officer may call a special meeting of the stockholders;
- requires supermajority voting for some amendments to the certificate of incorporation; and
- provide for the issuance of “blank check” preferred stock.

Limitation of Liability and Indemnification Matters

Our certificate of incorporation limits, to the fullest extent permitted by Delaware law, the personal liability of directors for monetary damages for breach of their fiduciary duties as a director. The effect of this provision is to eliminate our rights and those of our stockholders, through stockholders’ derivative suits on behalf of the Company, to recover monetary damages against a director for breach of fiduciary duty as a director, including breaches resulting from grossly negligent behavior.

Section 145 of the DGCL provides that a corporation may indemnify a director, officer, employee or agent made a party to an action by reason of the fact that he or she was a director, officer, employee or agent of the corporation or was serving at the request of the corporation against expenses, judgments, fines and amounts paid in settlement actually and reasonably incurred by him or her in connection with such action if he or she acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, the best interests of the corporation and, with respect to any criminal action, had no reasonable cause to believe his or her conduct was unlawful.

MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS FOR NON-U.S. HOLDERS

The following is a summary of the material U.S. federal income tax considerations related to the purchase, ownership and disposition of our common stock by a non-U.S. holder (as defined below), that holds our common stock as a “capital asset” (generally property held for investment). This summary is based on the provisions of the Internal Revenue Code of 1986, as amended (the “Code”), U.S. Treasury regulations, administrative rulings and judicial decisions, all as in effect on the date hereof, and all of which are subject to change, possibly with retroactive effect. We have not sought any ruling from the Internal Revenue Service (“IRS”) with respect to the statements made and the conclusions reached in the following summary, and there can be no assurance that the IRS or a court will agree with such statements and conclusions.

This summary does not address all aspects of U.S. federal income taxation that may be relevant to non-U.S. holders in light of their personal circumstances. In addition, this summary does not address the Medicare tax on certain investment income, U.S. federal estate or gift tax laws, any state, local or non-U.S. tax laws or any tax treaties. This summary also does not address tax considerations applicable to investors that may be subject to special treatment under the U.S. federal income tax laws, such as:

- banks, insurance companies or other financial institutions;
- tax-exempt or governmental organizations;
- qualified foreign pension funds (or any entities, all of the interests of which are held by a qualified foreign pension fund);
- dealers in securities or foreign currencies;
- traders in securities that use the mark-to-market method of accounting for U.S. federal income tax purposes;
- persons subject to the alternative minimum tax;
- partnerships or other pass-through entities for U.S. federal income tax purposes or holders of interests therein;
- persons deemed to sell our common stock under the constructive sale provisions of the Code;
- persons that acquired our common stock through the exercise of employee stock options or otherwise as compensation or through a tax-qualified retirement plan;
- certain former citizens or long-term residents of the United States; and
- persons that hold our common stock as part of a straddle, appreciated financial position, synthetic security, hedge, conversion transaction or other integrated investment or risk reduction transaction.

PROSPECTIVE INVESTORS ARE ENCOURAGED TO CONSULT THEIR TAX ADVISORS WITH RESPECT TO THE APPLICATION OF THE U.S. FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATION, AS WELL AS ANY TAX CONSEQUENCES OF THE PURCHASE, OWNERSHIP AND DISPOSITION OF OUR COMMON STOCK ARISING UNDER THE U.S. FEDERAL ESTATE OR GIFT TAX LAWS OR UNDER THE LAWS OF ANY STATE, LOCAL, NON-U.S. OR OTHER TAXING JURISDICTION OR UNDER ANY APPLICABLE INCOME TAX TREATY.

Non-U.S. Holder Defined

For purposes of this discussion, a “non-U.S. holder” is a beneficial owner of our common stock that is not for U.S. federal income tax purposes a partnership or any of the following:

- an individual who is a citizen or resident of the United States;

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- a corporation (or other entity treated as a corporation for U.S. federal income tax purposes) created or organized in or under the laws of the United States, any state thereof or the District of Columbia;
 - an estate the income of which is subject to U.S. federal income tax regardless of its source; or
 - a trust (i) the administration of which is subject to the primary supervision of a U.S. court and which has one or more United States persons who have the authority to control all substantial decisions of the trust or (ii) which has made a valid election under applicable U.S. Treasury regulations to be treated as a United States person.

If a partnership (including an entity or arrangement treated as a partnership for U.S. federal income tax purposes) holds our common stock, the tax treatment of a partner in the partnership generally will depend upon the status of the partner, upon the activities of the partnership and upon certain determinations made at the partner level. Accordingly, we urge partners in partnerships (including entities or arrangements treated as partnerships for U.S. federal income tax purposes) considering the purchase of our common stock to consult their tax advisors regarding the U.S. federal income tax considerations of the purchase, ownership and disposition of our common stock by such partnership.

Distributions

We do not expect to pay any distributions on our common stock in the foreseeable future. However, in the event we do make distributions of cash or other property on our common stock, such distributions will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. To the extent those distributions exceed our current and accumulated earnings and profits, the distributions will be treated as a non-taxable return of capital to the extent of the non-U.S. holder's tax basis in our common stock and thereafter as capital gain from the sale or exchange of such common stock. See "—Gain on Disposition of Common Stock." Subject to the withholding requirements under FATCA (as defined below) and with respect to effectively connected dividends, each of which is discussed below, any distribution made to a non-U.S. holder on our common stock generally will be subject to U.S. withholding tax at a rate of 30% of the gross amount of the distribution unless an applicable income tax treaty provides for a lower rate. To receive the benefit of a reduced treaty rate, a non-U.S. holder must provide the applicable withholding agent with an IRS Form W-8BEN or IRS Form W-8BEN-E (or other applicable or successor form) certifying qualification for the reduced rate.

Dividends paid to a non-U.S. holder that are effectively connected with a trade or business conducted by the non-U.S. holder in the United States (and, if required by an applicable income tax treaty, are treated as attributable to a permanent establishment maintained by the non-U.S. holder in the United States) generally will be taxed on a net income basis at the rates and in the manner generally applicable to United States persons (as defined under the Code). Such effectively connected dividends will not be subject to U.S. withholding tax if the non-U.S. holder satisfies certain certification requirements by providing the applicable withholding agent with a properly executed IRS Form W-8ECI certifying eligibility for exemption. If the non-U.S. holder is a corporation for U.S. federal income tax purposes, it may also be subject to a branch profits tax (at a 30% rate or such lower rate as specified by an applicable income tax treaty) on its effectively connected earnings and profits (as adjusted for certain items), which will include effectively connected dividends.

Gain on Disposition of Common Stock

Subject to the discussions below under "—Backup Withholding and Information Reporting" and "—Additional Withholding Requirements under FATCA," a non-U.S. holder generally will not be subject to U.S. federal income or withholding tax on any gain realized upon the sale or other disposition of our common stock unless:

- the non-U.S. holder is an individual who is present in the United States for a period or periods aggregating 183 days or more during the calendar year in which the sale or disposition occurs and certain other conditions are met;

- the gain is effectively connected with a trade or business conducted by the non-U.S. holder in the United States (and, if required by an applicable income tax treaty, is attributable to a permanent establishment maintained by the non-U.S. holder in the United States); or
- our common stock constitutes a United States real property interest by reason of our status as a United States real property holding corporation (“USRPHC”) for U.S. federal income tax purposes and as a result such gain is treated as effectively connected with a trade or business conducted by the non-U.S. holder in the United States.

A non-U.S. holder described in the first bullet point above will be subject to U.S. federal income tax at a rate of 30% (or such lower rate as specified by an applicable income tax treaty) on the amount of such gain, which generally may be offset by U.S. source capital losses.

A non-U.S. holder whose gain is described in the second bullet point above or, subject to the exceptions described in the next paragraph, the third bullet point above, generally will be taxed on a net income basis at the rates and in the manner generally applicable to United States persons (as defined under the Code) unless an applicable income tax treaty provides otherwise. If the non-U.S. holder is a corporation for U.S. federal income tax purposes whose gain is described in the second bullet point above, then such gain would also be included in its effectively connected earnings and profits (as adjusted for certain items), which may be subject to a branch profits tax (at a 30% rate or such lower rate as specified by an applicable income tax treaty).

Generally, a corporation is a USRPHC if the fair market value of its United States real property interests equals or exceeds 50% of the sum of the fair market value of its worldwide real property interests and its other assets used or held for use in a trade or business. We believe that we currently are, and expect to remain for the foreseeable future, a USRPHC for U.S. federal income tax purposes. However, as long as our common stock continues to be “regularly traded on an established securities market” (within the meaning of the U.S. Treasury Regulations), only a non-U.S. holder that actually or constructively owns, or owned at any time during the shorter of the five-year period ending on the date of the disposition or the non-U.S. holder’s holding period for the common stock, more than 5% of our common stock will be treated as disposing of a U.S. real property interest and will be taxable on gain realized on the disposition of our common stock as a result of our status as a USRPHC. If our common stock were not considered to be regularly traded on an established securities market, such holder (regardless of the percentage of stock owned) would be treated as disposing of a U.S. real property interest and would be subject to U.S. federal income tax on a taxable disposition of our common stock (as described in the preceding paragraph), and a 15% withholding tax would apply to the gross proceeds from such disposition.

Non-U.S. holders should consult their tax advisors with respect to the application of the foregoing rules to their ownership and disposition of our common stock.

Backup Withholding and Information Reporting

Any dividends paid to a non-U.S. holder must be reported annually to the IRS and to the non-U.S. holder. Copies of these information returns may be made available to the tax authorities in the country in which the non-U.S. holder resides or is established. Payments of dividends to a non-U.S. holder generally will not be subject to backup withholding if the non-U.S. holder establishes an exemption by properly certifying its non-U.S. status on an IRS Form W-8BEN or IRS Form W-8BEN-E (or other applicable or successor form).

Payments of the proceeds from a sale or other disposition by a non-U.S. holder of our common stock effected by or through a U.S. office of a broker generally will be subject to information reporting and backup withholding (at the applicable rate) unless the non-U.S. holder establishes an exemption by properly certifying its non-U.S. status on an IRS Form W-8BEN or IRS Form W-8BEN-E (or other applicable or successor form) and certain other conditions are met. Information reporting and backup withholding generally will not apply to any payment of the proceeds from a sale or other disposition of our common stock effected outside the United States by a non-U.S. office of a broker. However, unless such broker has documentary evidence in its records that the non-U.S. holder is not a United States person and certain other conditions are met, or the non-U.S. holder otherwise establishes an exemption, information reporting will apply to a payment of the proceeds of the disposition of our common stock effected outside the United States by such a broker if it has certain relationships within the United States.

Backup withholding is not an additional tax. Rather, the U.S. federal income tax liability (if any) of persons subject to backup withholding will be reduced by the amount of tax withheld. If backup withholding results in an overpayment of taxes, a refund may be obtained, provided that the required information is timely furnished to the IRS.

Additional Withholding Requirements under FATCA

Sections 1471 through 1474 of the Code, and the U.S. Treasury regulations and administrative guidance issued thereunder (“FATCA”), impose a 30% withholding tax on any dividends paid on our common stock and on the gross proceeds from a disposition of our common stock (if such disposition occurs after December 31, 2018), in each case if paid to a “foreign financial institution” or a “non-financial foreign entity” (each as defined in the Code) (including, in some cases, when such foreign financial institution or non-financial foreign entity is acting as an intermediary), unless (i) in the case of a foreign financial institution, such institution enters into an agreement with the U.S. government to withhold on certain payments, and to collect and provide to the U.S. tax authorities substantial information regarding U.S. account holders of such institution (which includes certain equity and debt holders of such institution, as well as certain account holders that are non-U.S. entities with U.S. owners), (ii) in the case of a non-financial foreign entity, such entity certifies that it does not have any “substantial United States owners” (as defined in the Code) or provides the applicable withholding agent with a certification identifying the direct and indirect substantial United States owners of the entity (in either case, generally on an IRS Form W-8BEN-E), or (iii) the foreign financial institution or non-financial foreign entity otherwise qualifies for an exemption from these rules and provides appropriate documentation (such as an IRS Form W-8BEN-E). Foreign financial institutions located in jurisdictions that have an intergovernmental agreement with the United States governing these rules may be subject to different rules. Under certain circumstances, a holder might be eligible for refunds or credits of such taxes. Non-U.S. holders are encouraged to consult their own tax advisors regarding the effects of FATCA on an investment in our common stock.

INVESTORS CONSIDERING THE PURCHASE OF OUR COMMON STOCK ARE URGED TO CONSULT THEIR OWN TAX ADVISORS REGARDING THE APPLICATION OF THE U.S. FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATIONS AND THE APPLICABILITY AND EFFECT OF U.S. FEDERAL ESTATE AND GIFT TAX LAWS AND ANY STATE, LOCAL OR NON-U.S. TAX LAWS AND TAX TREATIES.

PLAN OF DISTRIBUTION

The selling stockholders, including their pledgees, donees, transferees, distributees, beneficiaries or other successors in interest, may from time to time offer some or all of the shares of common stock (collectively, the “Securities”) covered by this prospectus. To the extent required, this prospectus may be amended and supplemented from time to time to describe a specific plan of distribution.

The selling stockholders will not pay any of the costs, expenses and fees in connection with the registration and sale of the shares of common stock covered by this prospectus, but they will pay any and all underwriting discounts, selling commissions and stock transfer taxes, if any, attributable to sales of the shares of common stock. We will not receive any proceeds from the sale of the shares of common stock by the selling stockholders.

The selling stockholders may sell the Securities covered by this prospectus from time to time, and may also decide not to sell all or any of the Securities that they are allowed to sell under this prospectus. The selling stockholders will act independently of us in making decisions regarding the timing, manner and size of each sale. These dispositions may be at fixed prices, at market prices prevailing at the time of sale, at prices related to such prevailing market prices, at varying prices determined at the time of sale, or at privately negotiated prices. Sales may be made by the selling stockholders in one or more types of transactions, which may include:

- Purchases by underwriters, dealers and agents who may receive compensation in the form of underwriting discounts, concessions or commissions from the selling stockholders and/or the purchasers of the Securities for whom they may act as agent;
- one or more block transactions, including transactions in which the broker or dealer so engaged will attempt to sell the Securities as agent but may position and resell a portion of the block as principal to facilitate the transaction, or in crosses, in which the same broker acts as an agent on both sides of the trade;
- ordinary brokerage transactions or transactions in which a broker solicits purchases;
- purchases by a broker-dealer or market maker, as principal, and resale by the broker-dealer for its account;
- the pledge of Securities for any loan or obligation, including pledges to brokers or dealers who may from time to time effect distributions of the Securities;
- short sales or transactions to cover short sales relating to the Securities;
- one or more exchanges or over the counter market transactions;
- through distribution by a selling stockholder or its successor in interest to its members, general or limited partners or shareholders (or their respective members, general or limited partners or shareholders);
- privately negotiated transactions;
- the writing of options, whether the options are listed on an options exchange or otherwise;
- distributions to creditors and equity holders of us or the selling stockholders; or
- any combination of the foregoing, or any other available means allowable under applicable law.

A selling stockholder may also resell all or a portion of the Securities in open market transactions in reliance upon Rule 144 under the Securities Act provided it meets the criteria and conforms to the requirements of Rule 144.

The selling stockholders may enter into sale, forward sale and derivative transactions with third parties, or may sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable prospectus supplement indicates, in connection with those sales, forward sales or derivative transactions, the third parties may sell securities covered by this prospectus and the applicable prospectus supplement, including in short sale transactions and by issuing securities that are not covered by this prospectus but are exchangeable for or

represent beneficial interests in the common stock. The third parties also may use shares received under those sale, forward sale or derivative arrangements or shares pledged by the selling stockholder or borrowed from the selling stockholders or others to settle such third-party sales or to close out any related open borrowings of common stock. The third parties may deliver this prospectus in connection with any such transactions. Any third party in such sale transactions will be an underwriter and will be identified in the applicable prospectus supplement (or a post-effective amendment to the registration statement of which this prospectus is a part).

In addition, the selling stockholders may engage in hedging transactions with broker-dealers in connection with distributions of the Securities or otherwise. In those transactions, broker-dealers may engage in short sales of securities in the course of hedging the positions they assume with selling stockholders. The selling stockholders may also sell securities short and redeliver securities to close out such short positions. The selling stockholders may also enter into option or other transactions with broker-dealers which require the delivery of securities to the broker-dealer. The broker-dealer may then resell or otherwise transfer such securities pursuant to this prospectus. The selling stockholders also may loan or pledge shares, and the borrower or pledgee may sell or otherwise transfer the Securities so loaned or pledged pursuant to this prospectus. Such borrower or pledgee also may transfer those Securities to investors in our securities or the selling stockholders' securities or in connection with the offering of other securities not covered by this prospectus.

To the extent necessary, we may amend or supplement this prospectus from time to time to describe a specific plan of distribution. We will file a supplement to this prospectus, if required, upon being notified by the selling stockholders that any material arrangement has been entered into with a broker-dealer for the sale of shares through a block trade, offering or a purchase by a broker or dealer. The applicable prospectus supplement will set forth the specific terms of the offering of securities, including:

- the number of the Securities offered;
- the price of such Securities;
- the proceeds to the selling stockholders from the sale of such Securities;
- the names of the underwriters or agents, if any;
- any underwriting discounts, agency fees or other compensation to underwriters or agents; and
- any discounts or concessions allowed or paid to dealers.

The selling stockholders may, or may authorize underwriters, dealers and agents to, solicit offers from specified institutions to purchase Securities from the selling stockholders at the public offering price listed in the applicable prospectus supplement. These sales may be made under "delayed delivery contracts" or other purchase contracts that provide for payment and delivery on a specified future date. Any contracts like this will be described in and be subject to the conditions listed in the applicable prospectus supplement.

Broker-dealers or agents may receive compensation in the form of commissions, discounts or concessions from us or the selling stockholders. Broker-dealers or agents may also receive compensation from the purchasers of Securities for whom they act as agents or to whom they sell as principals, or both. Compensation as to a particular broker-dealer might be in excess of customary commissions and will be in amounts to be negotiated in connection with transactions involving securities. In effecting sales, broker-dealers engaged by the selling stockholders may arrange for other broker-dealers to participate in the resales.

In connection with sales of Securities covered hereby, the selling stockholders and any underwriter, broker-dealer or agent and any other participating broker-dealer that executes sales for the selling stockholders may be deemed to be an "underwriter" within the meaning of the Securities Act. Accordingly, any profits realized by the selling stockholders and any compensation earned by such underwriter, broker-dealer or agent may be deemed to be underwriting discounts and commissions. Because the selling stockholders may be deemed to be "underwriters" under the Securities Act, the selling stockholders must deliver this prospectus and any prospectus supplement in the manner required by the Securities Act. This prospectus delivery requirement may be satisfied through the facilities of the NYSE MKT LLC in accordance with Rule 153 under the Securities Act or satisfied in accordance with Rule 174 under the Securities Act.

We and the selling stockholders have agreed to indemnify each other against certain liabilities, including liabilities under the Securities Act. In addition, we or the selling stockholders may agree to indemnify any underwriters, broker-dealers and agents against or contribute to any payments the underwriters, broker-dealers or agents may be required to make with respect to, civil liabilities, including liabilities under the Securities Act. Underwriters, broker-dealers and agents and their affiliates are permitted to be customers of, engage in transactions with, or perform services for us and our affiliates or the selling stockholders or their affiliates in the ordinary course of business.

The selling stockholders will be subject to applicable provisions of Regulation M of the Exchange Act and the rules and regulations thereunder, which provisions may limit the timing of purchases and sales of any of the Securities or the selling stockholders. Regulation M may also restrict the ability of any person engaged in the distribution of the Securities to engage in market-making activities with respect to the Securities. These restrictions may affect the marketability of such Securities.

In order to comply with applicable securities laws of some states, the Securities may be sold in those jurisdictions only through registered or licensed brokers or dealers. In addition, in certain states the Securities may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirements is available. In addition, any Securities covered by this prospectus that qualify for sale pursuant to Rule 144 under the Securities Act may be sold in open market transactions under Rule 144 rather than pursuant to this prospectus.

In connection with an offering of the Securities under this prospectus, the underwriters may purchase and sell securities in the open market. These transactions may include short sales, stabilizing transactions and purchases to cover positions created by short sales. Short sales involve the sale by the underwriters of a greater number of securities than they are required to purchase in an offering. Stabilizing transactions consist of certain bids or purchases made for the purpose of preventing or retarding a decline in the market price of the securities while an offering is in progress.

The underwriters also may impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the underwriters have repurchased securities sold by or for the account of that underwriter in stabilizing or short-covering transactions.

These activities by the underwriters may stabilize, maintain or otherwise affect the market price of the Securities offered under this prospectus. As a result, the price of the Securities may be higher than the price that otherwise might exist in the open market. If these activities are commenced, they may be discontinued by the underwriters at any time. These transactions may be effected on the NYSE MKT or another securities exchange or automated quotation system, or in the over-the-counter market or otherwise.

LEGAL MATTERS

The validity of our common stock offered by this prospectus will be passed upon for us by Vinson & Elkins L.L.P., Houston, Texas.

EXPERTS

The consolidated financial statements as of December 31, 2016 and 2015 and for each of the three years in the period ended December 31, 2016 and management's assessment of the effectiveness of internal control over financial reporting as of December 31, 2016 incorporated by reference in this prospectus and in the Registration Statement have been so incorporated in reliance on the reports of BDO USA, LLP, an independent registered public accounting firm, incorporated herein by reference, given on the authority of said firm as experts in auditing and accounting.

The information included in or incorporated by reference into this prospectus regarding our estimated quantities of proved reserves, the future net revenues from those reserves and their present value is based, in part, on the estimated reserve evaluations and related calculations of Wright & Company, Inc., independent petroleum engineering consultants. These estimates are aggregated and the sums are included in or incorporated by reference into this prospectus in reliance upon the authority of each firm as experts in petroleum engineering.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 (including the exhibits, schedules and amendments thereto) under the Securities Act, with respect to our common stock offered hereby. This prospectus does not contain all of the information set forth in the registration statement and the exhibits and schedules thereto. For further information with respect to us and the common stock offered hereby, we refer you to the registration statement and the exhibits and schedules filed therewith. Statements contained in this prospectus as to the contents of any contract, agreement or any other document are summaries of the material terms of this contract, agreement or other document and are not necessarily complete. With respect to each of these contracts, agreements or other documents filed as an exhibit to the registration statement, reference is made to the exhibits for a more complete description of the matter involved. A copy of the registration statement, and the exhibits and schedules thereto, may be inspected without charge at the public reference facilities maintained by the SEC at 100 F Street NE, Washington, D.C. 20549. Copies of these materials may be obtained, upon payment of a duplicating fee, from the Public Reference Section of the SEC at 100 F Street NE, Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the public reference facility. The SEC maintains a website that contains reports, proxy and information statements and other information regarding registrants that file electronically with the SEC. The address of the SEC's website is www.sec.gov.

We also make available free of charge on our internet website at www.gastar.com our Annual Reports on Form 10-K, our Quarterly Reports on Form 10-Q, our Current Reports on Form 8-K and any amendments to those reports, as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. Information contained on our website is not incorporated by reference into this prospectus and you should not consider information contained on our website as part of this prospectus.

INFORMATION INCORPORATED BY REFERENCE

The SEC allows us to "incorporate by reference" the information we file with the SEC. This means we can disclose important information to you without actually including the specific information in this prospectus by referring to those documents. The information incorporated by reference is an important part of this prospectus.

If information in incorporated documents conflicts with information in this prospectus, you should rely on the most recent information. If information in an incorporated document conflicts with information in another incorporated document, you should rely on the most recent incorporated document.

The documents listed below have been filed by us pursuant to the Exchange Act and are incorporated by reference in this prospectus:

- our Annual Report on Form 10-K for the fiscal year ended December 31, 2016;

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- our Quarterly Reports on Form 10-Q for the quarterly periods ended March 31, 2017, June 30, 2017 and September 30, 2017;
 - our Current Report on Form 8-K, January 11, 2017, January 30, 2017, February 17, 2017, March 7, 2017, March 20, 2017, March 22, 2017, April 6, 2017, May 4, 2017, June 5, 2017, June 27, 2017, August 3, 2017, September 13, 2017 and September 19, 2017 (in each case excluding any information furnished pursuant to Item 2.02 or Item 7.01); and
 - our Definitive Proxy Statement on Schedule 14A filed with the SEC on April 7, 2017 and our Definitive Proxy Statement on Schedule 14A filed on May 22, 2017.

You may request a copy of any document incorporated by reference in this prospectus, at no cost, by writing or calling us at the following address:

Gastar Exploration Inc.
1331 Lamar Street, Suite 650
Houston, Texas 77010
Attention: Michael A. Gerlich
Telephone: (713) 739-1800

You should rely only on the information incorporated by reference or provided in this prospectus. We have not authorized anyone else to provide you with any information. You should not assume that the information incorporated by reference or provided in this prospectus is accurate as of any date other than the date on the front of each document.



GASTAR EXPLORATION INC.

Prospectus

, 2017

Part II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution

The following table sets forth an itemized statement of the amounts of all expenses payable by us in connection with the registration of the common stock offered hereby. The selling stockholders will not bear any portion of such expenses.

| | |
|------------------------------|--------------------|
| SEC registration fee | \$20,877.03 |
| Accounting fees and expenses | 10,000 |
| Legal fees and expenses | 25,000 |
| Miscellaneous | 10,000 |
| Total | <u>\$65,877.03</u> |

Item 14. Indemnification of Directors and Officers

Applicable Laws of Delaware. Section 145 of the the Delaware General Corporation Law (the “DGCL”) provides that a corporation may indemnify any person, including an officer and director, who was or is, or is threatened to be made, a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of such cooperation), by reason of the fact that such person is or was a director, officer, employee or agent of such corporation, or is or was serving at the request of such corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise. The indemnity may include expenses (including attorneys’ fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding, provided such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of such corporation, and, with respect to any criminal actions and proceedings, had no reasonable cause to believe that his conduct was unlawful. A Delaware corporation may indemnify any person, including an officer or director, who was or is, or is threatened to be made, a party to any threatened, pending or contemplated action or suit by or in the right of such corporation, under the same conditions, except that no indemnification is permitted without judicial approval if such person is adjudged to be liable to such corporation. Where an officer or director of a corporation is successful, on the merits or otherwise, in the defense of any action, suit or proceeding referred to above, or any claim, issue or matter herein, the corporation must indemnify such person against the expenses (including attorneys’ fees) which such officer or director actually and reasonably incurred in connection therewith.

Article 7 of our certificate of incorporation, as amended, provides that (i) each person who was or is made a party or is threatened to be made a party to or is involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative (hereinafter a “proceeding”), by reason of the fact that he or she or a person of whom he or she is the legal representative, is or was or has agreed to become a director or officer of the Company or is or was serving or has agreed to serve, at the request of the Company, in any capacity, with any corporation, partnership or other entity in which the Company has a partnership or other interest, including service with respect to employee benefit plans, whether the basis of such proceeding is alleged action in an official capacity as a director, officer, employee or agent or in any other capacity while serving or having agreed to serve as a director, officer, employee or agent, shall be indemnified and held harmless by the Company to the fullest extent authorized by the Delaware Corporate Law, as the same exists or may hereafter be amended (but, in the case of any such amendment, only to the extent that such amendment permits the Company to provide broader indemnification rights than said law permitted the Company to provide prior to such amendment), against all expense, liability and loss (including, without limitation, attorneys’ fees, judgments, fines, ERISA (Employee Retirement Income Security Act of 1974) excise taxes or penalties and amounts paid or to be paid in settlement) reasonably incurred or suffered by such person in connection therewith and such indemnification shall continue as to a person who has ceased to serve in the capacity which initially entitled such person to indemnity hereunder and shall inure to the benefit of his or her heirs, executors and administrators, and (ii) the Company shall indemnify and hold harmless in such manner any person designated by the Board, or any committee thereof, as a person subject to this indemnification provision, and who was or is made a party or is threatened to be made a party to a proceeding by reason of the fact that he, she or a person of whom he or she is the legal representative, is or was serving at the request of the Board as a director,

officer, employee or agent of another corporation or a partnership, joint venture, trust or other enterprise whether such request is made before or after the acts taken or allegedly taken or events occurring or allegedly occurring which give rise to such proceeding; provided, however, that except as provided below with respect to proceedings seeking to enforce rights to indemnification, we shall indemnify any such person seeking indemnification in connection with a proceeding (or part thereof) initiated by such person only if such proceeding (or part thereof) was authorized by our Board.

If a claim is not paid in full by us within thirty days after a written claim has been received by us, the claimant may at any time thereafter bring suit against us to recover the unpaid amount of the claim and, if successful in whole or in part, the claimant shall be entitled to be paid also the expense of prosecuting such claim to the fullest extent permitted by law. It shall be a defense to any such action (other than an action brought to enforce a claim for expenses incurred in defending any proceeding in advance of its final disposition where the required undertaking, if any is required, has been tendered to us) that the claimant has not met the standards of conduct which make it permissible under the DGCL for us to indemnify the claimant for the amount claimed, but the burden of proving such defense shall be on us.

We may also maintain insurance, at our expense, to protect the Company and any person who is or was serving as a director, officer, employee or agent of the Company or is or was serving at the request of the Company as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any expense, liability or loss, whether or not we would have the power to indemnify such person against such expense, liability or loss under the DGCL.

Item 15. Recent Sales of Unregistered Securities

On February 16, 2017, we entered into an agreement to sell (i) \$125.0 million aggregate principal amount of the Convertible Notes due 2022 (the “Notes”), which Notes are convertible into our common stock or, in certain circumstances, cash in lieu of common stock or a combination of cash and shares of common stock and (ii) 29,408,305 shares of common stock for a purchase price of \$50.0 million. The proceeds from the sale of the Notes and the common stock were used to fully repay the \$69.2 million outstanding on the our revolving credit facility, to satisfy and discharge the \$325.0 million of 8.625% senior secured notes due May 2018 and to pay the expenses from the transactions. The issuance of common stock and the Notes were consummated as a private placement to “accredited investors” (as that term is defined under Rule 501 of Regulation D), exempt from registration under the Securities Act, in reliance upon Section 4(a)(2) of the Securities Act and Regulation D Rule 506, as a transaction by an issuer not involving a public offering.

On March 20, 2017, we entered into an agreement to sell \$75.0 million aggregate principal amount of our Notes (the “Additional Notes”). The proceeds from the sale of the Additional Notes were used to fund the acquisition of additional working and net revenue interests in Kingfisher County, Oklahoma from multiple sellers and a portion of the Company’s 2017 capital budget. On May 2, 2017, \$37.5 million principal of the Additional Notes were repurchased by the Company pursuant to a mandatory repurchase obligation of the Company in exchange for the issuance of (a) 25,456,521 newly issued shares of common stock (the “Repurchase Shares”) and (b) 2,000 shares of the Company’s Special Voting Preferred Stock, par value \$0.01 per share (the “Special Voting Preferred Stock”). The Additional Notes were issued in a transaction not involving a public offering exempt from registration under Section 4(a)(2) of the Securities Act. In addition, the Repurchase Shares and the Special Voting Preferred Stock were issued in transactions in reliance upon the exemption from registration provided in Section 3(a)(9) of the Securities Act.

Item 16. Exhibits and Financial Statement Schedules

(a) See Exhibit Index immediately prior to the signature page hereto, which is incorporated by reference as if fully set forth herein.

(b) Financial Statement Schedules. Financial statement schedules are omitted because the required information is not applicable, not required or included in the financial statements or the notes thereto included in the prospectus that forms a part of this registration statement.

Item 17. Undertakings

The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement (i) to include any prospectus required by section 10(a)(3) of the Securities Act; (ii) to reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement, and (iii) to include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.

(2) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) For purposes of determining liability under the Securities Act, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. *Provided, however*, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

(5) To deliver or cause to be delivered with the prospectus, to each person to whom the prospectus is sent or given, the latest annual report to security holders that is incorporated by reference in the prospectus and furnished pursuant to and meeting the requirements of Rule 14a-3 or Rule 14c-3 under the Securities Exchange Act of 1934; and, where interim financial information required to be presented by Article 3 of Regulation S-X are not set forth in the prospectus, to deliver, or cause to be delivered to each person to whom the prospectus is sent or given, the latest quarterly report that is specifically incorporated by reference in the prospectus to provide such interim financial information.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

INDEX TO EXHIBITS

| Exhibit Number | Description |
|---------------------------|--|
| 2.1** | <u>Purchase and Sale Agreement, dated March 28, 2013, by and among Chesapeake Exploration, L.L.C., Arcadia Resources, L.P., Jamestown Resources, L.L.C., Larchmont Resources, L.L.C. and Gastar Exploration USA, Inc. (incorporated by reference to Exhibit 2.1 of the Quarterly Report on Form 10-Q filed with the SEC on May 2, 2013. File No. 001-35211).</u> |
| 2.2** | <u>Amendment to Purchase and Sale Agreement, dated as of June 7, 2013, by and among Chesapeake Exploration, L.L.C., Arcadia Resources, L.P., Jamestown Resources, L.L.C., Larchmont Resources, L.L.C. and Gastar Exploration USA, Inc. (incorporated by reference to Exhibit 2.1 of the Current Report on Form 8-K filed with the SEC on June 12, 2013. File No. 001-35211).</u> |
| 2.3** | <u>Agreement of Sale and Purchase, dated September 4, 2013, by and among Gastar Exploration USA, Inc., Lime Rock Resources II-A, L.P. and Lime Rock Resources II-C, L.P. (incorporated by reference to Exhibit 2.1 of the Current Report on Form 8-K filed with the SEC on October 28, 2013. File No. 001-35211).</u> |
| 2.4 | <u>Amended and Restated Plan of Arrangement Under Section 193 of the Business Corporations Act (Alberta), effective as of November 14, 2013 (incorporated by reference to Exhibit 2.1 of the Current Report on Form 8-K filed with the SEC on November 15, 2013. File No. 001-32714).</u> |
| 2.5 | <u>Agreement and Plan of Merger, dated as of January 31, 2014, among Gastar Exploration, Inc. and Gastar Exploration USA, Inc. (incorporated by reference to Exhibit 2.1 of the Current Report on Form 8-K filed with the SEC on January 31, 2014. File No. 000-55138).</u> |
| 2.6** | <u>Purchase and Sale Agreement, dated May 1, 2015, by and between Gastar Exploration Inc. and Oklahoma Energy Acquisitions, LP (incorporated by reference to Exhibit 2.3 of the Quarterly Report on Form 10-Q filed with the SEC on May 7, 2015. File No. 001-35211).</u> |
| 2.7 | <u>First Amendment of Purchase and Sale Agreement, dated June 22, 2015, by and between Gastar Exploration Inc. and Oklahoma Energy Acquisitions, LP (incorporated by reference to Exhibit 2.4 of the Quarterly Report on Form 10-Q filed with the SEC on August 6, 2015. File No. 001-35211).</u> |
| 2.8** | <u>Purchase and Sale Agreement, dated October 14, 2015, by and between Gastar Exploration Inc. and Husky Ventures, Inc., Silverstar of Nevada, Inc., Maximus Exploration, LLC and Atwood Acquisitions, LLC (incorporated by reference to Exhibit 2.1 of the Current Report on Form 8-K filed with the SEC on October 16, 2015. File No. 001-35211).</u> |
| 2.9 | <u>Letter Agreement, dated December 3, 2015, by and between Gastar Exploration Inc. and Husky Ventures, Inc., Silverstar of Nevada, Inc., Maximus Exploration, LLC and Atwood Acquisitions, LLC (incorporated by reference to Exhibit 2.18 of the Annual Report on Form 10-K filed with the SEC on March 10, 2016. File No. 001-35211).</u> |
| 2.10** | <u>Purchase and Sale Agreement, dated February 19, 2016, by and between Gastar Exploration Inc. and THQ Appalachia I, LLC (incorporated by reference to Exhibit 2.1 of the Current Report on Form 8-K filed with the SEC on February 24, 2016. File No. 001-35211).</u> |
| 2.11 | <u>Amendment to Purchase and Sale Agreement, dated March 29, 2016, by and between Gastar Exploration Inc. and TH Exploration II, LLC (incorporated by reference to Exhibit 2.1 of the Current Report on Form 8-K filed with the SEC on March 30, 2016. File No. 001-35211).</u> |
| 2.12 | <u>Closing Agreement, dated April 7, 2016, by and between Gastar Exploration Inc. and TH Exploration II, LLC (incorporated by reference to Exhibit 2.6 of the Quarterly Report on Form 10-Q filed with the SEC on May 5, 2016. File No. 001-35211).</u> |

| Exhibit Number | Description |
|-----------------------|--|
| 2.13 | <u>Closing Agreement, dated December 16, 2015, by and among Gastar Exploration Inc. and Husky Ventures, Inc., Silverstar of Nevada, Inc., Maximus Exploration, LLC and Atwood Acquisitions, LLC (incorporated by reference to Exhibit 2.3 of the Quarterly Report on Form 10-Q filed with the SEC on May 5, 2016. File No. 001-35211).</u> |
| 2.14 | <u>Purchase and Sale Agreement, dated October 19, 2016, by and between Gastar Exploration Inc. and Red Bluff Resources Operating, LLC (incorporated by reference to Exhibit 2.1 of the Current Report on Form 8-K filed with the SEC on November 22, 2016. File No. 001-35211).</u> |
| 2.15 | <u>First Amendment of Purchase and Sale Agreement, dated November 18, 2016, by and between Gastar Exploration Inc. and Red Bluff Resources Operating, LLC (incorporated by reference to Exhibit 2.2 of the Current Report on Form 8-K filed with the SEC on November 22, 2016. File No. 001-35211).</u> |
| 2.16 | <u>Second Amendment of Purchase and Sale Agreement, dated November 18, 2016, by and between Gastar Exploration Inc. and Red Bluff Resources Operating, LLC (incorporated by reference to Exhibit 2.3 of the Current Report on Form 8-K filed with the SEC on November 22, 2016. File No. 001-35211).</u> |
| 2.17 | <u>Closing Agreement, dated November 18, 2016, by and between Gastar Exploration Inc. and Red Bluff Resources Operating, LLC (incorporated by reference to Exhibit 2.4 of the Current Report on Form 8-K filed with the SEC on November 22, 2016. File No. 001-35211).</u> |
| 3.1 | <u>Amended and Restated Certificate of Incorporation of Gastar Exploration Inc. (formerly known as Gastar Exploration USA, Inc.) (incorporated by reference to Exhibit 3.1 of the Current Report on Form 8-K filed with the SEC on October 28, 2013. File No. 001-35211).</u> |
| 3.2 | <u>Certificate of Amendment of Amended and Restated Certificate of Incorporation of Gastar Exploration Inc. dated July 5, 2016 (incorporated by reference to Exhibit 3.2 of the Quarterly Report on Form 10-Q filed with the SEC on August 4, 2016. File No. 001-35211).</u> |
| 3.3 | <u>First Certificate of Amendment of Amended and Restated Certificate of Incorporation of Gastar Exploration Inc. dated July 24, 2017 (incorporated by reference to Exhibit 3.3 of the Quarterly Report on Form 10-Q filed with the SEC on November 5, 2015. File No. 001-35211).</u> |
| 3.4 | <u>Amended and Restated Bylaws of Gastar Exploration Inc. (incorporated by reference to Exhibit 3.2 of the Quarterly Report on Form 10-Q filed with the SEC on November 5, 2015. File No. 001-35211).</u> |
| 3.5 | <u>Certificate of Merger of Gastar Exploration, Inc. into Gastar Exploration USA, Inc. (incorporated by reference to Exhibit 3.1 of the Current Report on Form 8-K filed with the SEC on January 31, 2014. File No. 000-55138).</u> |
| 3.6 | <u>Certificate of Designation of Rights and Preferences of 8.625% Series A Cumulative Preferred Stock (incorporated by reference to Exhibit 3.3 of Gastar Exploration USA, Inc.'s Form 8A filed on June 20, 2011. File No. 001-35211).</u> |
| 3.7 | <u>Certificate of Designation of Rights and Preferences of 10.75% Series B Cumulative Preferred Stock (incorporated by reference to Exhibit 3.4 of the Form 8-A filed with the SEC on November 1, 2013. File No. 001-35211).</u> |
| 3.8 | <u>Certificate of Designations of Series C Junior Participating Preferred Stock (incorporated by reference to Exhibit 3.1 of the Current Report on Form 8-K filed with the SEC on January 19, 2016. File No. 001-35211).</u> |
| 3.9 | <u>Certificate of Amendment to Certificate of Designations of Series C Junior Participating Preferred Stock of Gastar Exploration Inc. (incorporated by reference to Exhibit 3.1 of the Current Report on Form 8-K filed with the SEC on January 30, 2017. File No. 001-35211).</u> |

| Exhibit Number | Description |
|----------------|--|
| 3.10 | <u>Certificate of Elimination of Series C Junior Participating Preferred Stock of Gastar Exploration Inc. (incorporated by reference to Exhibit 3.1 of the Current Report on Form 8-K filed with the SEC on April 6, 2017. File No. 001-35211).</u> |
| 3.11 | <u>Certificate of Designation of Special Voting Shares of Gastar Exploration Inc. dated March 22, 2017(incorporated by reference to Exhibit 3.1 of the Current Report on Form 8-K filed with the SEC on March 22, 2017. File No. 001-35211).</u> |
| 4.1 | <u>Indenture, dated as of May 15, 2013, among Gastar Exploration USA, Inc., the Subsidiary Guarantors (as defined therein) and Wells Fargo Bank, National Association, and any and all successors thereto, as trustee and as collateral agent (incorporated by reference to Exhibit 4.1 of the Current Report on Form 8-K filed with the SEC on May 15, 2013. File No. 001-35211).</u> |
| 4.2 | <u>Form of 8 5/8% Senior Secured Notes due 2018 (incorporated by reference to Exhibit A to Exhibit 4.1 of the Current Report on Form 8-K filed with the SEC on May 15, 2013. File No. 001-35211).</u> |
| 4.3 | <u>Rights Agreement dated as of January 18, 2016 between the Company and American Stock Transfer & Trust Company, LLC (incorporated by reference to Exhibit 4.1 of the Current Report on Form 8-K filed with the SEC on January 19, 2016. File No. 001-35211).</u> |
| 4.4 | <u>Amendment to the Rights Agreement dated as of May 11, 2016 between the Company and American Stock Transfer & Trust Company, LLC (incorporated by reference to Exhibit 4.1 of the Current Report on Form 8-K filed with the SEC on May 16, 2016. File No. 001-35211).</u> |
| 4.5 | <u>Rights Agreement, dated as of January 27, 2017, between Gastar Exploration Inc., as the Company, and American Stock Transfer & Trust Company, LLC, as Rights Agent (incorporated by reference to Exhibit 4.1 of the Current Report on Form 8-K filed with the SEC on January 30, 2017. File No. 001-35211).</u> |
| 4.6 | <u>Indenture, dated as of March 3, 2017, between Gastar Exploration Inc. and Wilmington Trust, National Association as Trustee and Collateral Agent (incorporated by reference to Exhibit 4.1 of the Current Report on Form 8-K filed with the SEC on March 7, 2017. File No. 001-35211).</u> |
| 4.7 | <u>Amendment No. 1 to the Rights Agreement, dated as of April 6, 2017, between Gastar Exploration Inc. and American Stock Transfer & Trust Company, LLC, as Rights Agent (incorporated by reference to Exhibit 4.1 of the Current Report on Form 8-K filed with the SEC on April 6, 2017. File No. 001-35211).</u> |
| 4.8 | <u>First Supplemental Indenture, dated as of March 21, 2017, between Gastar Exploration Inc. and Wilmington Trust, National Association as Trustee and Collateral Agent (incorporated by reference to Exhibit 4.2 of the Current Report on Form 8-K filed with the SEC on March 22, 2017. File No. 001-35211).</u> |
| 4.9 | <u>Form of Convertible Note due 2022 (incorporated by reference to Exhibit A to Exhibit 4.1 of the Current Report on Form 8-K filed with the SEC on March 7, 2017. File No. 001-35211).</u> |
| 4.10 | <u>Registration Rights Agreement, dated as of March 3, 2017, by and among Gastar Exploration Inc. and each of the purchasers listed on Schedule I thereto (incorporated by reference to Exhibit 4.3 of the Current Report on Form 8-K filed with the SEC on March 7, 2017. File No. 001-35211).</u> |
| 4.11 | <u>Amendment No. 1 to the Registration Rights Agreement, dated as of March 21, 2017, by and among Gastar Exploration Inc. and each of the purchasers listed on Schedule I thereto (incorporated by reference to Exhibit 4.4 of the Current Report on Form 8-K filed with the SEC on March 22, 2017. File No. 001-35211).</u> |
| 5.1† | <u>Opinion of Vinson & Elkins L.L.P. as to the legality of the securities being registered</u> |

| Exhibit Number | Description |
|----------------|---|
| 10.1 | <u>Intercreditor Agreement, dated as of June 7, 2013, among Gastar Exploration USA, Inc., certain subsidiaries party thereto, Wells Fargo Bank, National Association, as First Priority Agent and Wells Fargo Bank, National Association, as Second Priority Agent (incorporated by reference to Exhibit 10.2 of the Current Report on Form 8-K filed with the SEC on June 12, 2013. File No. 001-35211).</u> |
| 10.2 | <u>Second Amended and Restated Credit Agreement, dated as of June 7, 2013, among Gastar Exploration USA, Inc., as Borrower, Wells Fargo Bank, National Association, as Administrative Agent, Collateral Agent, Swing Line Lender and Issuing Lender, and the Lenders named therein (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K filed with the SEC on June 12, 2013. File No. 001-35211).</u> |
| 10.3 | <u>Waiver, Agreement and Amendment No. 1 to Second Amended and Restated Credit Agreement, dated as of July 31, 2013, among Gastar Exploration USA, Inc., as Borrower, Wells Fargo Bank, National Association, as Administrative Agent, Collateral Agent, Swing Line Lender and Issuing Lender, and the Lenders named therein (incorporated by reference to Exhibit 10.3 of the Quarterly Report on Form 10-Q filed with the SEC on August 5, 2013. File No. 001-35211).</u> |
| 10.4 | <u>Agreement and Amendment No. 2 to Second Amended and Restated Credit Agreement, dated as of October 18, 2013, among Gastar Exploration USA, Inc., as Borrower, Wells Fargo Bank, National Association, as Administrative Agent, Collateral Agent, Swing Line Lender and Issuing Lender, and the Lenders named therein (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K filed with the SEC on October 22, 2013. File No. 001-35211).</u> |
| 10.5 | <u>Agreement, Waiver and Amendment No. 3 to Second Amended and Restated Credit Agreement, dated as of March 12, 2014, among the Company, the Guarantors party thereto, the Lenders party thereto, and Wells Fargo Bank, National Association, as Administrative Agent, Collateral Agent, Swing Line Lender, and as Issuing Lender (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K filed with the SEC on March 13, 2014. File No. 001-35211).</u> |
| 10.6 | <u>Master Assignment, Agreement and Amendment No. 4 to Second Amended and Restated Credit Agreement, dated as of August 13, 2014, among the Company, Wells Fargo Bank, National Association, as Administrative Agent, Collateral Agent, Swing Line Lender, Issuing Lender, and Lender, IBERIABANK as Lender, Comerica Bank as Lender, and ING Capital LLC as Lender (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K filed with the SEC on August 15, 2014. File No. 001-35211).</u> |
| 10.7 | <u>Master Assignment, Agreement and Amendment No. 5 to Second Amended and Restated Credit Agreement, dated as of March 9, 2015, among the Company, Wells Fargo Bank, National Association, as Administrative Agent, Collateral Agent, Swing Line Lender, Issuing Lender, and Lender, IBERIABANK as Lender, Comerica Bank as Lender, ING Capital LLC as Lender and Barclays Bank PLC as Lender (incorporated by reference to Exhibit 10.8 of the Annual Report on Form 10-K filed with the SEC on March 12, 2015. File No. 001-35211).</u> |
| 10.8 | <u>Amendment No. 6 to Second Amended and Restated Credit Agreement, dated as of December 22, 2015, among the Company, as Borrower, Wells Fargo Bank, National Association, as Administrative Agent, Collateral Agent, Swing Line Lender, Issuing Lender, and in its capacity as Lender (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K filed with the SEC on December 29, 2015. File No. 001-35211).</u> |
| 10.9 | <u>Limited Waiver and Amendment No. 7 to Second Amended and Restated Credit Agreement, dated January 29, 2016, among the Company, as Borrower, Wells Fargo Bank, National Association, as Administrative Agent, Collateral Agent, Swing Line Lender and Issuing Lender, and the other Lenders party thereto constituting the Required Lenders (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K filed with the SEC on February 2, 2016. File No. 001-35211).</u> |

| Exhibit Number | Description |
|-----------------------|--|
| 10.10 | <u>Waiver and Amendment No. 8 to Second Amended and Restated Credit Agreement, dated March 9, 2016 among the Company, as Borrower, Wells Fargo Bank, National Association, as Administrative Agent, Collateral Agent, Swing Line Lender and Issuing Lender, and the other Lenders party thereto constituting the Required Lenders (incorporated by reference to Exhibit 10.10 of the Annual Report on Form 10-K filed with the SEC on March 10, 2016. File No. 001-35211).</u> |
| 10.11 | <u>Waiver to Second Amended and Restated Credit Agreement, dated March 10, 2016 among the Company, as Borrower, Wells Fargo Bank, National Association, as Administrative Agent, Collateral Agent, Swing Line Lender and Issuing Lender, and the other Lenders party thereto constituting the Required Lenders (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K filed with the SEC on May 16, 2016. File No. 001-35211).</u> |
| 10.12 | <u>Amendment No. 9 to Second Amended and Restated Credit Agreement, dated October 14, 2016, by and among Gastar Exploration Inc., the Lenders party thereto, and Wells Fargo Bank, National Association, as administrative agent for the lenders thereto, as collateral agent, as swing line lender and as issuing lender (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K filed with the SEC on October 20, 2016. File No. 001-35211).</u> |
| 10.13 | <u>Amendment No. 10 to Second Amended and Restated Credit Agreement, dated January 10, 2017, by and among Gastar Exploration Inc., the Lenders party thereto, and Wells Fargo Bank, National Association, as administrative agent for the lenders thereto, as collateral agent, as swing line lender and as issuing lender (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K filed with the SEC on January 11, 2017. File No. 001-35211).</u> |
| 10.14* | <u>Employment Agreement dated March 23, 2005 by and among First Sourcenergy Wyoming, Inc., Gastar Exploration Ltd. and J. Russell Porter (incorporated by reference to Exhibit 10.2 of the Registration Statement on Form S-1, filed with the SEC on August 12, 2005. Registration No. 333-127498).</u> |
| 10.15* | <u>First Amendment to Employment Agreement entered into by and between Gastar Exploration, Ltd, Gastar Exploration USA, Inc., f/k/a First Sourcenergy Wyoming, Inc., and J. Russell Porter as of July 25, 2008 (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K filed with the SEC on July 28, 2008. File No. 001-32714).</u> |
| 10.16* | <u>Second Amendment to Employment Agreement entered into by and between Gastar Exploration Ltd., Gastar Exploration USA, Inc. and J. Russell Porter as of February 3, 2011 (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K filed with the SEC on February 7, 2011. File No. 001-32714).</u> |
| 10.17* | <u>Employment Agreement dated April 26, 2005 by and among First Sourcenergy Wyoming, Inc., Gastar Exploration Ltd. and Michael A Gerlich (incorporated by reference to Exhibit 10.3 of the Registration Statement on Form S-1, filed with the SEC on August 12, 2005. Registration No. 333-127498).</u> |
| 10.18* | <u>First Amendment to Employment Agreement entered into by and between Gastar Exploration, Ltd, Gastar Exploration USA, Inc., f/k/a First Sourcenergy Wyoming, Inc., and Michael A. Gerlich as of July 25, 2008 (incorporated by reference to Exhibit 10.2 of the Current Report on Form 8-K filed with the SEC on July 28, 2008. File No. 001-32714).</u> |
| 10.19* | <u>Second Amendment to Employment Agreement entered into by and between Gastar Exploration Ltd., Gastar Exploration USA, Inc. and Michael A. Gerlich as of April 10, 2012 (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K filed with the SEC on April 12, 2012. File No. 001-32714).</u> |
| 10.20* | <u>Third Amendment to Employment Agreement entered into by and between Gastar Exploration Inc. and Michael A. Gerlich as of March 10, 2015 (incorporated by reference to Exhibit 10.21 of the Annual Report on Form 10-K filed with the SEC on March 12, 2015. File No. 001-35211).</u> |

| Exhibit Number | Description |
|-----------------------|---|
| 10.21* | <u>Employment Agreement, dated as of June 19, 2014, between Gastar Exploration Inc. and Michael McCown (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K filed with the SEC on June 23, 2014. File No. 001-35211).</u> |
| 10.22* | <u>Employment Separation and Release Agreement, dated February 4, 2016, among the Company and Michael McCown (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K filed with the SEC on February 5, 2016. File No. 001-35211).</u> |
| 10.23* | <u>Form of Gastar Executive Stock Option Grant (incorporated by reference to Exhibit 10.10 of the Annual Report on Form 10-K for the fiscal year ended December 31, 2005 filed with the SEC on March 31, 2006. File No. 001-32714).</u> |
| 10.24* | <u>Form of Gastar Exploration Inc. Performance Unit Agreement (graded vesting) (incorporated by reference to Exhibit 10.24 of the Annual Report on Form 10-K for the fiscal year ended December 31, 2014 filed with the SEC on March 12, 2015. File No. 001-35211).</u> |
| 10.25* | <u>Form of Gastar Exploration Inc. Performance Unit Agreement (cliff vesting) (incorporated by reference to Exhibit 10.25 of the Annual Report on Form 10-K for the fiscal year ended December 31, 2014 filed with the SEC on March 12, 2015. File No. 001-35211).</u> |
| 10.26* | <u>Amended and Restated Gastar Exploration Inc. Long-Term Incentive Plan (incorporated by reference to Annex A of the Definitive Proxy Statement on Schedule 14A filed with the SEC on May 2, 2014. File No. 001-35211).</u> |
| 10.27* | <u>First Amendment to the Gastar Exploration Inc. Amended and Restated Long-Term Incentive Plan (incorporated by reference to Exhibit 10.2 of the Registration Statement on Form S-8 filed with the SEC on July 7, 2017. File No. 333-219200).</u> |
| 10.28* | <u>Second Amendment to the Gastar Exploration Inc. Amended and Restated Long-Term Incentive Plan (incorporated by reference to Annex A to the Registrant's Definitive Proxy Statement on Schedule 14A, filed May 22, 2017. File No. 001-35211).</u> |
| 10.27* | <u>Form of Indemnity Agreement (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K filed with the SEC on September 15, 2014. File No. 001-35211).</u> |
| 10.28* | <u>Gastar Exploration Ltd. Employee Change of Control Severance Plan effective as of March 23, 2007 and as amended and restated effective February 15, 2008 (incorporated by reference to Exhibit 10.18 of the Annual Report on Form 10-K for the fiscal year ended December 31, 2007, filed with the SEC on March 17, 2008. File No. 001-32714).</u> |
| 10.29* | <u>Fourth Amendment to Amended and Restated Gastar Exploration Inc. Employee Change of Control Severance Plan, dated September 12, 2017 (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K filed with SEC on September 13, 2017. File No. 001-35211).</u> |
| 10.30* | <u>First Amendment to Amended and Restated Gastar Exploration Ltd. Employee Change of Control Severance Plan, dated April 11, 2012 and effective January 1, 2012 (incorporated by reference to Exhibit 10.2 of the Current Report on Form 8-K filed with the SEC on April 12, 2012. File No. 001-35211).</u> |
| 10.31* | <u>Second Amendment to Amended and Restated Gastar Exploration Inc. Employee Change of Control Severance Plan, dated March 12, 2014 and effective March 1, 2014 (incorporated by reference to Exhibit 10.27 of the Annual Report on Form 10-K filed with SEC on March 13, 2014. File No. 001-35211).</u> |
| 10.32* | <u>Third Amendment to Amended and Restated Gastar Exploration Inc. Employee Change of Control Severance Plan, dated March 10, 2015 (incorporated by reference to Exhibit 10.32 of the Annual Report on Form 10-K filed with the SEC on March 12, 2015. File No. 001-35211).</u> |
| 10.33* | <u>Gastar Exploration Ltd. Annual Bonus Plan (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K filed with the SEC on August 8, 2011. File No. 001-32714).</u> |

| Exhibit Number | Description |
|-----------------------|---|
| 10.34* | <u>Form of Restricted Stock Agreement (incorporated by reference to Exhibit 10.3 of the Registration Statement on Form S-8 filed with the SEC on December 4, 2006. File No. 333-139112).</u> |
| 10.35 | <u>Securities Purchase Agreement dated as of February 16, 2017, by and among Gastar Exploration Inc. and each of the purchasers listed on Schedule I thereto (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K filed with the SEC on March 7, 2017. File No. 001-35211).</u> |
| 10.36 | <u>Amendment No. 1 to Securities Purchase Agreement dated as of March 3, 2017, by and among Gastar Exploration Inc. and each of the purchasers listed on Schedule I thereto (incorporated by reference to Exhibit 10.2 of the Current Report on Form 8-K filed with the SEC on March 7, 2017. File No. 001-35211).</u> |
| 10.37 | <u>Third Amended and Restated Credit Agreement, dated as of March 3, 2017, among Gastar Exploration Inc., as borrower, certain subsidiaries of borrower, as guarantors, the lenders party thereto and Wilmington Trust, National Association, as administrative agent (incorporated by reference to Exhibit 10.3 of the Current Report on Form 8-K filed with the SEC on March 7, 2017. File No. 001-35211).</u> |
| 10.38 | <u>Amendment No. 1 to Third Amended and Restated Credit Agreement, dated as of March 20, 2017, among Gastar Exploration Inc., as borrower, certain subsidiaries of borrower, as guarantors, the lenders party thereto and Wilmington Trust, National Association, as administrative agent (incorporated by reference to Exhibit 10.2 of the Current Report on Form 8-K filed with the SEC on March 22, 2017. File No. 001-35211).</u> |
| 10.39 | <u>Amendment No. 2 to Third Amended and Restated Credit Agreement, dated as of August 2, 2017, among Gastar Exploration Inc., as borrower, certain subsidiaries of borrower, as guarantors, the lenders party thereto and Wilmington Trust, National Association, as administrative agent (incorporated by reference to Exhibit 10.7 of the Quarterly Report on Form 10-Q filed with the SEC on August 3, 2017. File No. 001-35211).</u> |
| 10.40 | <u>Amendment No. 3 to Third Amended and Restated Credit Agreement, executed on September 18, 2017, among Gastar Exploration Inc., as borrower, certain subsidiaries of borrower, as guarantors, the lenders party thereto and Wilmington Trust, National Association, as administrative agent (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K filed with the SEC on September 19, 2017. File No. 001-35211).</u> |
| 10.41 | <u>Intercreditor Agreement, dated March 3, 2017, between Wilmington Trust, National Association, as administrative agent for the priority lien secured parties and Wilmington Trust, National Association, as collateral trustee for the second lien secured parties (incorporated by reference to Exhibit 10.4 of the Current Report on Form 8-K filed with the SEC on March 7, 2017. File No. 001-35211).</u> |
| 10.42 | <u>Intercreditor Agreement, dated March 3, 2017, by and among Morgan Stanley Capital Group, Inc., NextEra Energy Marketing, LLC, Cargill, Incorporated, Koch Supply & Trading, LP, Gastar Exploration Inc., the guarantor party thereto, Wilmington Trust, National Association, as administrative agent for the lenders from time to time party to the credit agreement, and Wilmington Trust, National Association, as collateral agent on behalf of the secured parties (incorporated by reference to Exhibit 10.5 of the Current Report on Form 8-K filed with the SEC on March 7, 2017. File No. 001-35211).</u> |
| 10.43 | <u>Third Amended and Restated Pledge and Security Agreement, dated March 3, 2017, by and among Gastar Exploration Inc., the subsidiary guarantor named therein and Wilmington Trust, National Association, as collateral trustee (incorporated by reference to Exhibit 10.6 of the Current Report on Form 8-K filed with the SEC on March 7, 2017. File No. 001-35211).</u> |

| Exhibit Number | Description |
|-----------------------|--|
| 10.44 | Pledge and Security Agreement, dated March 3, 2017, by and among Gastar Exploration Inc., the subsidiary guarantor named therein and Wilmington Trust, National Association, as collateral trustee (incorporated by reference to Exhibit 10.7 of the Current Report on Form 8-K filed with the SEC on March 7, 2017. File No. 001-35211). |
| 10.45 | Securities Purchase Agreement, dated as of March 20, 2017, by and among Gastar Exploration Inc. and each of the purchasers listed on Schedule I thereto (incorporated by reference to Exhibit 10.1 of the Current Report on Form 8-K filed with the SEC on March 22, 2017. File No. 001-35211). |
| 10.46 | Purchase Letter Agreement, dated February 24, 2017 by and among Gastar Exploration Inc., John B. Kleinheinz, Kleinheinz Capital Partners, Inc., GKK Husky, L.L.C., Husky Oklahoma, LLC and Strong Oil and Gas, Ltd. (incorporated by reference to Exhibit 10.4 of the Quarterly Report on Form 10-Q filed with the SEC on May 10, 2017. File No. 001-35211). |
| 10.47 | Amendment No. 1 to Purchase Letter Agreement, dated March 16, 2017 by and among Gastar Exploration Inc., John B. Kleinheinz, Kleinheinz Capital Partners, Inc., GKK Husky, L.L.C., Husky Oklahoma, LLC and Strong Oil and Gas, Ltd. (incorporated by reference to Exhibit 10.5 of the Quarterly Report on Form 10-K for the quarter ended March 31, 2017, filed with the SEC on May 10, 2017. File No. 001-35211). |
| 10.48 | Amendment No. 2 to Purchase Letter Agreement, dated March 21, 2017 by and among Gastar Exploration Inc., John B. Kleinheinz, Kleinheinz Capital Partners, Inc., GKK Husky, L.L.C., Husky Oklahoma, LLC and Strong Oil and Gas, Ltd. (incorporated by reference to Exhibit 10.6 of the Quarterly Report on Form 10-Q, filed with the SEC on May 10, 2017. File No. 001-35211). |
| 21.1 | Subsidiaries of Gastar Exploration Inc. (incorporated by reference to Exhibit 21.1 of the of the Annual Report on Form 10-K filed with SEC on March 9, 2017. File No. 001-35211). |
| 23.1† | Consent of BDO USA, LLP. |
| 23.2† | Consent of Wright & Company, Inc. |
| 23.3† | Consent of Vinson & Elkins L.L.P. (included in Exhibit 5.1) |
| 24.1 | Power of Attorney (included in the signature page of the previously filed Registration Statements) |
| 101 | Interactive Data Files |

* Management contract or compensatory plan or arrangement.

** Pursuant to Item 601(b)(2) of Regulation S-K, the schedules and similar attachments have not been filed. The registrant agrees to furnish supplementally a copy of any omitted schedule to the Securities and Exchange Commission upon request.

† Filed herewith.

†† Furnished herewith.

SIGNATURES

Pursuant to the requirements of the Securities Act, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Houston, State of Texas, on December 22, 2017.

GASTAR EXPLORATION INC.

By: /s/ J. Russell Porter
J. Russell Porter
President and Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons on December 22, 2017 in the capacities indicated.

| <u>Name</u> | <u>Title</u> |
|---|---|
| <u>/s/ J. Russell Porter</u> J. Russell Porter | President, Chief Executive Officer and Director (Principal Executive Officer) |
| * <u>Michael A. Gerlich</u> | Senior Vice President and Chief Financial Officer (Principal Financial and Accounting Officer) |
| * <u>Jerry R. Schuyler</u> | Chairman of the Board |
| * <u>Randolph C. Coley</u> | Director |
| * <u>Robert D. Penner</u> | Director |
| * <u>Stephen A. Holditch</u> | Director |
| * <u>Ronald D. Scott</u> | Director |
| * <u>Nathan W. Walton</u> | Director |

By: /s/ J. Russell Porter
J. Russell Porter
Attorney in Fact



December 22, 2017

Gastar Exploration Inc.
1331 Lamar Street, Suite 650
Houston, Texas 77010

Re: Registration Statement on Form S-1

Ladies and Gentlemen:

We have acted as counsel for Gastar Exploration Inc., a Delaware corporation (the “Company”), and Northwest Properties Ventures LLC, an Oklahoma limited liability company (the “Subsidiary Guarantor”), with respect to certain legal matters in connection with (a) the previous sale and issuance of 29,408,305 of shares (the “Issued Shares”) of common stock, par value \$0.001 per share, of the Company (the “Common Stock”) pursuant to a Securities Purchase Agreement (the “February Securities Purchase Agreement”), dated February 16, 2017, by and among the Company and the purchasers named on Schedule I thereto (the “Selling Stockholders”) and (b) the previous sale and issuance of \$200,000,000 aggregate principal amount of its Convertible Notes due 2022 (the “Notes”) pursuant to the February Purchase Agreement and to a Securities Purchase Agreement dated March 20, 2017 by and among the Company and the Selling Stockholders (the “March Purchase Agreement”) and governed by an Indenture dated as of March 3, 2017, among the Company, the Subsidiary Guarantor and Wilmington Trust, National Association, as trustee, and collateral trustee, as amended and supplemented by the First Supplemental Indenture, dated as of March 21, 2017, by and among the Company, the Subsidiary Guarantor, and Wilmington Trust, National Association, as trustee, and collateral trustee (the “Convertible Notes Indenture”) which (a) \$162.5 million aggregate principal amount of such Notes shall be convertible, in certain circumstances into Common Stock (the “Conversion Shares”), cash, or a combination of cash and Conversion Shares and (b) \$37.5 million aggregate principal amount of such Notes were repurchased pursuant to a conditional mandatory repurchase obligation of the Company pursuant to Section 5.15 of the March Purchase Agreement for Common Stock (the “Repurchase Shares” and together with the Shares, the “Issued Shares”) and exchanged for the issuance of (i) 25,456,521 shares of the Company’s Common Stock and (ii) 2,000 shares of the Company’s Special Voting Preferred Stock. Additionally, we have acted as counsel to the Company with respect to certain legal matters in connection with the preparation and filing of a post-effective amendment to a registration statement on Form S-3 to Form S-1 (the “Registration Statement”) by the Company and the Selling Stockholders under the Securities Act of 1933, as amended (the “Securities Act”), of up to 169,933,626 shares of Common Stock to be resold from time to time by the Selling Stockholders (the “Selling Stockholder Shares”). The aggregate amount of Selling Stockholder Shares will not exceed 169,933,626 shares.

We have also participated in the preparation of the Prospectus (the “Prospectus”) contained in the Registration Statement to which this opinion is an exhibit. The Selling Stockholder Shares will be offered in amounts, at prices and on terms to be determined in light of market conditions at the time of sale and to be set forth in supplements (each a “Prospectus Supplement”) to the Prospectus.

We have examined originals or copies, certified or otherwise identified to our satisfaction, of (i) the amended and restated certificate of incorporation, as amended, and amended and restated bylaws of the Company, (ii) the Delaware General Corporation Law (the “DGCL”), (iii) the Registration Statement, including the Prospectus, (iv) resolutions of the board of directors of the Company approving and authorizing the Registration Statement, including any and all necessary pre-effective and post-effective amendments thereto and (v) such other certificates, statutes and other instruments and documents

Vinson & Elkins LLP Attorneys at Law
Austin Beijing Dallas Dubai Hong Kong Houston London Moscow New York
Palo Alto Richmond Riyadh San Francisco Taipei Tokyo Washington

1001 Fannin Street, Suite 2500
Houston, TX 77002-6760
Tel +1.713.758.2222 Fax +1.713.758.2346 [velaw.com](http://www.velaw.com)

as we considered appropriate for purposes of the opinions hereafter expressed. We have also reviewed such questions of law as we have deemed necessary or appropriate. As to matters of fact relevant to the opinions expressed herein, and as to factual matters arising in connection with our examination of corporate documents, records and other documents and writings, we relied upon certificates and other communications of corporate officers of the Company, without further investigation as to the facts set forth therein.

In connection with rendering the opinions set forth below, we have assumed that (i) all information contained in all documents reviewed by us is true and correct, (ii) all signatures on all documents examined by us are genuine, (iii) all documents submitted to us as originals are authentic and all documents submitted to us as copies conform to the originals of those documents, (iv) the Registration Statement, and any amendments thereto (including post-effective amendments), will have become effective and comply with all applicable laws and (v) all Selling Stockholder Shares will be sold in compliance with applicable federal and state securities laws and in the manner specified in the Registration Statement and the applicable Prospectus Supplement, .

Based on the foregoing, and subject to the assumptions, qualifications, limitations, and exceptions set forth herein, we are of the opinion that the Selling Stockholder Shares have been duly authorized and validly issued and are fully paid and nonassessable. The Conversion Shares have been duly authorized and reserved for issuance and, once issued in accordance with the terms of the Convertible Notes Indenture, will be validly issued, fully paid and nonassessable.

We express no opinions concerning (i) the validity or enforceability of any provisions contained in the Indentures that purport to waive or not give effect to rights to notices, defenses, subrogation or other rights or benefits that cannot be effectively waived under applicable law; or (ii) the enforceability of indemnification provisions to the extent they purport to relate to liabilities resulting from or based upon negligence or any violation of federal or state securities or blue sky laws.

The foregoing opinions are limited to the laws of the State of New York and the DGCL (including the applicable provisions of the Delaware Constitution and the reported judicial decisions interpreting these laws) and the federal laws of the United States of America and we are expressing no opinion as to the effect of the laws of any other jurisdiction, domestic or foreign.

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement and to the use of our name in the Prospectus forming a part of the Registration Statement under the caption "Legal Matters." In giving this consent, we do not admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act and the rules and regulations thereunder.

Very truly yours

/s/ Vinson & Elkins L.L.P.

Consent of Independent Registered Public Accounting Firm

Gastar Exploration Inc.
Houston, Texas

We hereby consent to the incorporation by reference in the Prospectus constituting a part of this Registration Statement of our reports dated March 9, 2017, relating to the consolidated financial statements and the effectiveness of internal control over financial reporting of Gastar Exploration Inc., which are incorporated by reference in that Prospectus.

We also consent to the reference to us under the caption “Experts” in the Prospectus.

/s/ BDO USA, LLP
Dallas, Texas
December 22, 2017

Consent of Wright & Company, Inc.

As independent oil and gas consultants, Wright & Company, Inc. hereby consents to the incorporation by reference in this registration statement on Form S-1 of our reserve report dated January 11, 2017, included in the Annual Report on Form 10-K of Gastar Exploration Inc., filed with the SEC on March 9, 2017, and the reference to our firm under the heading "Experts" and all other references to our firm in the prospectus.

Wright & Company, Inc.

TX. Reg. No. F-12302

By: /s/ D. Randall Wright

D. Randall Wright, P.E.
President

Brentwood, Tennessee
December 22, 2017