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

FORM 8-K

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

Date of Report (Date of earliest event reported): February 15, 2018 (February 15, 2018)

GASTAR EXPLORATION INC.

(Exact Name of Registrant as Specified in its Charter)

DELAWARE001-3521138-3531640(State or other jurisdiction of incorporation)(Commission File Number)(IRS Employer Identification No.)

1331 LAMAR STREET, SUITE 650 HOUSTON, TEXAS 77010

(Address of principal executive offices)

(713) 739-1800

(Registrant's telephone number, including area code)

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

followi	ing provisions (see General Instruction A.2. below):			
[]	Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)			
[]	Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)			
[]	Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))			
[]	Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))			
	by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§ 230.405 of this chapter 12b-2 of the Securities Exchange Act of 1934 (§ 240.12b-2 of this chapter).			
If an em	ng growth company \square herging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. \square			

SECTION 2 – FINANCIAL INFORMATION

Item 2.02 Results of Operations and Financial Condition.

On February 15, 2018, Gastar Exploration Inc. (the "Company") announced its total proved reserves as of December 31, 2017, certain preliminary fourth quarter 2017 production and operating results, 2018 capital budget information and first quarter and full-year 2018 production and expense guidance. A copy of the Company's press release dated February 15, 2018 is furnished herewith as Exhibit 99.1

In accordance with General Instruction B.2 of Form 8-K, the information presented herein under Item 2.02 and set forth in the attached press release included in Exhibit 99.1 to this report is deemed to be "furnished" solely pursuant to Item 2.02 of this report and shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that section, nor shall such information or the exhibit be deemed incorporated by reference into any filing under the Securities Act of 1933, as amended or the Exchange Act.

SECTION 9 - FINANCIAL STATEMENTS AND EXHIBITS

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

The following is a list of exhibits furnished as part of this Form 8-K:

Exhibit No.		Description of Document	
.1	Press release dated February 15, 2018.		

SIGNATURES

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

Date: February 15, 2018 GASTAR EXPLORATION INC.

By: /s/ J. Russell Porter

J. Russell Porter

President and Chief Executive Officer



NEWS RELEASE

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Gastar Exploration Announces 68% Increase in Year-End 2017 Proved Reserves, 2017 4th Quarter Production, Operations Update, 2018 Capital Budget and Production Guidance

HOUSTON, February 15, 2017 – Gastar Exploration Inc. (NYSE American: GST) ("Gastar" or the "Company") today provided a summary of the Company's year-end 2017 reserves, preliminary fourth quarter 2017 production, operations update, 2018 capital budget and 2018 production guidance.

Summary Highlights

- Gastar's year-end 2017 Securities and Exchange Commission ("SEC") proved reserves increased 68% to 42.9 million barrels of oil equivalent ("MMBoe").
- The pre-tax SEC-priced present value of future cash flows of the total proved reserves discounted at 10% ("PV-10") (a non-GAAP financial measure defined at the end of this release) increased 103% to \$288.4 million compared to 2016.
- In 2017, excluding acquisitions and divestitures, we replaced approximately 835% of our 2017 preliminary annual production of approximately 2.3 MMBoe.
- Fourth quarter 2017 preliminary production averaged approximately 6.9 thousand barrels of oil equivalent per day ("MBoe/d") and consisted of 72% liquids.
- The 2018 capital budget totals approximately \$115 million, focused on drilling Osage and Meramec formation wells on our STACK Play acreage.

J. Russell Porter, Gastar's President and CEO, commented, "Our strong growth in proved reserves is directly attributable to our continued successful drilling program designed to de-risk and delineate the Meramec and Osage formations on our STACK Play acreage. Excluding WEHLU, our STACK Play reserves increased 184% year-over-year. Of the 17.4 MMBoe year-over-year increase in our proved reserves, approximately 94% resulted from additions attributable to our drilling success."

"During the second half of 2017, we made significant strides at optimizing our drilling and completion techniques. As a result, we were able to book initial proved undeveloped reserves associated with the Osage formation. Our Osage type curve, assuming a 4,950 foot lateral length on a three-stream basis, is 500 thousand barrels of oil equivalent ("MBoe"), 73% liquids, and yields a strong internal rate of return."

"With the sale of our WEHLU assets scheduled to close at the end of February, we should have ample liquidity to execute our 2018 capital program," added Porter.

Year-End 2017 Reserves

Gastar's year-end 2017 total SEC proved reserves increased by 17.4 million barrels of oil equivalent ("MMBoe") to 42.9 MMBoe. Drilling activity in our Oklahoma STACK Play acreage generated net proved reserve additions of approximately 16.4 MMBoe, compared to 2017 net production of 2.3 MMBoe, while an increase in SEC pricing positively impacted reserves by approximately 2.6 MMBoe as compared to 2016.

The following table summarizes Gastar's proved reserves and corresponding PV-10 values as of December 31, 2017 by product and area of operation:

Area	Oil & Condensate (MBBL)	Natural Gas (MMcf)	NGLs (MBBL)	Total (Mboe)	PV-10 Value (\$ MM)
STACK Play	11,381	40,449	4,873	22,995	\$137.5
WEHLU	11,475	24,916	4,304	19,932	\$150.9
Total	22,856	65,365	9,177	42,927	\$288.4

The Company entered into a definitive purchase and sale agreement to divest its interest in the West Edmund Hunton Lime Unit ("WEHLU") for \$107.5 million. The transaction, subject to

customary closing conditions and adjustments, is expected to close on February 28, 2018, with a property sale effective date of October 1, 2017.

Of the total year-end 2017 proved reserves, 42% were proved developed, compared to 51% at year-end 2016 and were comprised of 53% oil and condensate, 26% natural gas and 21% NGLs, compared to 54% oil and condensate, 25% natural gas and 21% NGLs for year-end 2016. Excluding reserves associated with WEHLU, our STACK Play 2017 proved developed reserves were 33% of total proved reserves and were comprised of 50% oil and condensate, 29% natural gas and 21% NGLs. Gastar had 96 proved undeveloped gross well locations at year-end 2017, of which 46 were Meramec locations, 24 were Osage locations and 26 were a combination of Upper and Lower Hunton WEHLU locations.

The pre-tax SEC-priced PV-10 value was \$288.4 million, compared to \$142.1 million at year-end 2016. The calculations of the PV-10 value of our proved reserves for year-end 2017 used SEC benchmark average 12-month pricing of \$51.34 per barrel of oil and \$2.98 per MMBtu of natural gas before adjustments for energy content, quality, transportation, compression and gathering fees and regional price differentials as compared to 2016 prices of \$42.75 per barrel of oil and \$2.48 per MMBtu of natural gas.

Preliminary Fourth Quarter 2017 Production

Preliminary 2017 average daily fourth quarter 2017 production is expected to be approximately 6.9 MBoe/d, up from 5.9 MBoe/d in the fourth quarter of 2016 and 6.2 MBoe/d in the third quarter of 2017. Oil and condensate, NGLs and natural gas production as a percentage of total equivalent production volumes for the fourth quarter of 2017 is estimated to be approximately 49%, 23% and 28%, respectively.

WEHLU production in the fourth quarter of 2017 was approximately 2.9 MBoe/d, or 42% of total production, comprised of 46% oil and condensate, 29% NGLs and 25% natural gas as a percentage of total equivalent production volumes.

Operations Update

During the fourth quarter of 2017 we placed on production 8 Osage wells utilizing our Gen 3.0 completion design. Early flow back results continue to show significant production improvement as compared to our prior completion designs. Four of the eight wells have reached a max 30 Boe/d rate average of 627 (68% oil) as compared to our type curve peak average of 502 Boe/d

(79% oil). The new completion production and review of offset operator results are supportive of our three-stream Osage type curve reserves of 500 MBoe, comprised of 53% oil, 27% natural gas and 20% NGLs.

To date, we have drilled a total of 24 gross Meramec and 20 gross Osage wells and have participated in numerous third-party wells across our STACK Play acreage. With the success of our drilling program and that of offset operators, our 2018 drilling activity focus will continue to be developing our estimated 221 net Meramec and 659 net Osage locations within the STACK Play.

2018 Capital Plan

Gastar's 2018 capital budget is approximately \$115 million comprised of \$69.5 million for a one-rig STACK operated drilling and completion program, \$15.7 million for STACK non-operated drilling and completion costs, \$18.2 million in leasing costs and \$11.6 million for capitalized interest and administration costs. Approximately 86% of the 2018 capital budget is operated.

The 2018 capital budget includes the drilling of 15 gross (11.5 net) operated Osage wells and 5 gross (4.1 net) operated Meramec wells in Kingfisher and Garfield Counties, Oklahoma. In addition, we expect to participate in 2.9 net non-operated wells in the STACK Play. We anticipate the average cost to drill and complete an operated Osage and Meramec well to be approximately \$4.1 million and \$4.5 million, respectively. Well costs assume one well per unit as Gastar continues to focus on holding its acreage position by production. Based on current costs, future pad drilling costs are anticipated to be approximately 7 to 10% lower than single unit well costs.

The closing of the WEHLU sale coupled with cash on hand and internally generated cash flows should allow the Company ample liquidity to fund the proposed capital budget for 2018.

Additional details regarding the Company's operations, proved reserves, estimated type curves and IRRs are presented in an investor presentation posted today on the Company's website at www.gastar.com.

Guidance for First Quarter and Full-Year 2018

Our guidance for the first quarter of and full-year 2018 is provided in the table below and represents the Company's best estimate of the range of likely future results. Guidance excludes impact of the WEHLU assets, the sale of such is scheduled to close on February 28, 2017 with an effective date of October 1, 2017. Guidance could be affected by the factors described below in "Forward Looking Statements."

Production	First Quarter 2018	Full-Year 2018	
Net average daily (MBoe/d)(1)	4.7 – 5.0	5.0 - 6.0	
Liquids percentage (oil and NGLs)	71% – 73%	70% – 74%	
Cash Operating Expenses		2.50/	
Production taxes (% of production revenues)	2.5% – 2.7%	2.5% – 2.9%	
Direct lease operating (\$/Boe)	\$8.60 - \$9.40	\$8.40 - \$9.60	
Transportation, treating & gathering (\$/Boe)(2)	\$1.60 - \$1.80	\$1.50 - \$1.80	
Cash general & administrative (\$/Boe)	\$6.90 - \$7.40	\$6.00 - \$6.60	

⁽¹⁾ Based on equivalent of 6 thousand cubic feet (Mcf) of natural gas to one barrel of oil, condensate or NGLs.

About Gastar Exploration

Gastar Exploration Inc. is a pure-play Mid-Continent independent energy company engaged in the exploration, development and production of oil, condensate, natural gas and natural gas liquids in the United States. Gastar's 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. Gastar holds 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, Oswego, Osage, Woodford and Hunton formations. For more information, visit Gastar's website at www.gastar.com.

Information on Reserves and PV-10 Value

For the years ended December 31, 2017 and 2016, future cash inflows were computed using the 12-month un-weighted arithmetic average of the first-day-of-the-month prices for natural gas and oil (the "benchmark base prices") adjusted by lease in accordance with sales contracts and for energy content, quality, transportation, compression and gathering fees and regional price differentials, relating to the Company's proved reserves. Benchmark base prices are held constant in accordance with SEC guidelines for the life of the wells but are adjusted by lease in

⁽²⁾ Pursuant to revenue recognition accounting, fee will be applied as revenue deduction in 2018. Approximately 40% of fee is estimated to apply to NGLs and 60% to natural gas.

accordance with sales contracts and for energy content, quality, transportation, compression, and gathering fees and regional price differentials.

PV-10 represents the present value, discounted at 10% per annum, of estimated future net revenue before income tax of our estimated proved reserves. PV-10 is a non-GAAP financial measure as defined by the SEC. We believe that the presentation of PV-10 is relevant and useful to our investors because it presents the discounted future net cash flows attributable to our reserves prior to taking into account corporate future income taxes and our current tax structure. We further believe investors and creditors use PV-10 as a basis for comparison of the relative size of our reserves as compared with other companies.

The financial measure most directly comparable to PV-10 is the standardized measure of future net cash flows ("Standardized Measure"). We are not yet able to provide a reconciliation of PV-10 to Standardized Measure because the discounted future income taxes associated with our reserves is not yet calculable. We do not expect that our PV-10 will be materially different than our Standardized Measure as of December 31, 2017.

The Company's 2017 and 2016 year-end total proved reserves estimates were prepared by Wright & Company, Inc.

Type Curves

Type curves for our future Osage well locations are based upon third party engineering estimates, assuming a lateral length of 4,950 feet, and are commensurate with the booking of our proved undeveloped reserves at December 31, 2017. Type curves do not reflect "reserves" within the meaning of the Society of Petroleum Engineer's Petroleum Resource Management System or SEC rules until there is a development plan to drill such well locations. Future production estimates for individual well locations may vary.

Forward Looking Statements

Gastar has prepared the summary preliminary data in this release based on the most current information available to management. Gastar's normal closing and financial reporting processes with respect to the preliminary data herein have not been fully completed and, as a result, its actual results could be different from this summary preliminary information presented herein, and any such differences could be material.

This news release also includes "forward looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Forward looking statements include "guidance" and give our current expectations, opinion, belief or forecasts of future events and performance. A statement identified by the use of forward looking words including "may," "expects," "projects," "anticipates," "plans," "believes," "estimate," "will," "should," and certain of the other foregoing statements may be deemed forward-looking statements. Although Gastar believes that the expectations reflected in such forward-looking statements are reasonable, these statements involve risks and uncertainties that may cause actual future activities and results to be materially

different from those suggested or described in this news release. These include risks inherent in natural gas and oil drilling and production activities, including risks with respect to continued low or further declining prices for natural gas and oil that could result in further downward revisions to the value of proved reserves or otherwise cause Gastar to further delay or suspend planned drilling and completion operations or reduce production levels which would adversely impact cash flow; risks relating to the availability of capital to fund drilling operations that can be adversely affected by adverse drilling results, production declines and continued low or further declining prices for natural gas and oil; risks regarding closing the sale of Gastar's WEHLU assets; risks of fire, explosion, blowouts, pipe failure, casing collapse, unusual or unexpected formation pressures, environmental hazards, and other operating and production risks, which may temporarily or permanently reduce production or cause initial production or test results to not be indicative of future well performance or delay the timing of sales or completion of drilling operations; delays in receipt of drilling permits; risks relating to unexpected adverse developments in the status of properties; risks relating to the absence or delay in receipt of government approvals or third-party consents; risks relating to our ability to integrate acquired assets with ours and to realize the anticipated benefits from such acquisitions; and other risks described in Gastar's Annual Report on Form 10-K and other filings with the SEC, available at the SEC's website at www.sec.gov. Our actual sales production rates can vary considerably from tested initial production rates depending upon completion and production techniques and our primary areas of operations are subject to natural steep decline rates. By issuing forward looking statements based on current expectations, opinions, views or beliefs, Gastar has no obligation and, except as required by law, is not undertaking any obligation, to update or revise these statements or provide any other information relating to such statements.

Targeted expectations and guidance for the first quarter and full year 2018 are based upon the current 2018 planned capital expenditures budget, which may be subject to revision and reevaluation dependent upon future developments, including drilling results, our liquidity position, availability of crews, supplies and production capacity, weather delays, and significant changes in commodities prices or drilling costs.

Unless otherwise stated herein, equivalent volumes of production and reserves are based upon an energy equivalent ratio of six Mcf of natural gas to each barrel of liquids (oil, condensate and NGLs), which ratio is not reflective of relative value. Our NGLs are sold as part of our wet gas subject to an incremental NGLs pricing formula based upon a percentage of NGLs extracted from our wet gas production. Our reported production volumes reflect incremental post-processing NGLs volumes and residual gas volumes with which we are credited under our sales contracts.