

Gastar Exploration Inc.
Form RW
April 29, 2016

GASTAR EXPLORATION INC.

1331 Lamar Street, Suite 650

Houston, Texas 77010

Phone: (713) 739-1800 Fax: (713) 739-0458

April 29, 2016

VIA EDGAR

Securities and Exchange Commission

Division of Corporation Finance

100 F Street, NE

Washington, DC 20549

Re: Gastar Exploration Inc. (File No. 333-210781)

Request for Withdrawal of Registration Statement on Form S-3

Ladies and Gentlemen:

Pursuant to Rule 477 under the Securities Act of 1933, as amended, Gastar Exploration Inc. (the **Registrant**) respectfully requests the immediate withdrawal of the Registration Statement on Form S-3 (File No. 333-210781) with respect to the Registrant, together with all exhibits thereto (collectively, the **Registration Statement**), filed with the Securities and Exchange Commission on April 15, 2016.

The Registrant has determined that, as of May 1, 2016, it will no longer meet the eligibility requirements for use of Form S-3, specifically the registrant requirement set forth in General Instruction I.A.4. of Form S-3, as a result of its failure to pay dividends on its outstanding two series of preferred stock on or before April 30, 2016. The Registrant confirms that no securities were sold pursuant to the Registration Statement.

Thank you for your assistance in this request. If you have any questions or require any further information, please contact James M. Prince of Vinson & Elkins L.L.P. at (713) 758-3710.

Sincerely,

GASTAR EXPLORATION Inc.

By: /s/ Michael A. Gerlich
Name: Michael A. Gerlich
Title:

Senior Vice President, Chief Financial
Officer and Corporate Secretary