

GASTAR EXPLORATION LTD  
Form 8-K  
September 30, 2010

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): September 30, 2010 (September 30, 2010)

GASTAR EXPLORATION LTD.  
(Exact Name of Registrant as Specified in its Charter)

ALBERTA, CANADA  
(State or other jurisdiction  
of incorporation)

001-32714  
(Commission  
File Number)

98-0570897  
(IRS Employer  
Identification No.)

1331 LAMAR STREET, SUITE 1080  
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 following 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))

SECTION 7 – REGULATION FD

Item 7.01 Regulation FD Disclosure

On September 30, 2010, Gastar Exploration Ltd. (the “Company”) released an operational update regarding the Company’s successful completion of the Streater #1, a Middle Bossier well.

In accordance with General Instruction B.2 of Form 8-K, the information presented herein under Item 7.01 and set forth in the attached Exhibit 99.1 is deemed to be “furnished” solely pursuant to Item 7.01 of this report and shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, 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 or the Securities Exchange Act of 1934, each as amended.

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
99.1	Press Release dated September 30, 2010.

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.

GASTAR EXPLORATION LTD.

Date: September 30, 2010

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

EXHIBIT INDEX

Exhibit No.	Description of Document
99.1	Press Release dated September 30, 2010.